

**CITY OF MOUNTAIN VIEW  
MEMORANDUM**

**3.1**

DATE: May 20, 2010

TO: City Council

FROM: Michael A. Fuller, Public Works Director

SUBJECT: MAY 25, 2010 STUDY SESSION—HIGH-SPEED RAIL ALTERNATIVES ANALYSIS

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**PURPOSE**

The purpose of this Study Session is to gain Council input on proposed comments from the City to the California High-Speed Rail Authority (CHSRA) on the Preliminary Alternatives Analysis Report (AA) for the High-Speed Rail (HSR) project.

**BACKGROUND**

On April 8, 2010, the CHSRA released the AA for the San Francisco-to-San Jose portion of the HSR project. Some of the key contents of the AA include:

- Preliminary (2 percent to 4 percent complete design-level) information about vertical alignment alternatives for the HSR system along the Peninsula. In Mountain View, four-track (two for HSR and two for Caltrain/freight) alternatives are shown above grade on an aerial viaduct, at approximately the existing Caltrain grade, and below-grade in an open or covered trench. An above-grade alternative on a berm is not shown, nor is a deep tunnel containing HSR only. Information provided includes profiles and typical cross sections of the various alternatives.
- Existing and required right-of-way widths along the Caltrain corridor.
- Conceptual cost estimates.
- Information about scoping and outreach comments received by the CHSRA.
- Information about train operations.

Based on the information in the AA, the CHSRA has determined that a four-track, grade-separated, shared Caltrain and HSR system is feasible and is the preferred alternative between San Francisco and San Jose and that such a system can be

constructed at costs that are within the range of what was presented in the 2009 Business Plan and program-level environmental documents.

The AA is a preliminary step in the environmental review process. It allows stakeholders, including local agencies and the public, to provide comments to the CHSRA early in the environmental review/design process.

To aid community engagement in the HSR project, the Peninsula Rail Program, a partnership between Caltrain and the CHSRA, is using a Context-Sensitive Solutions (CSS) process that includes a "toolkit" to provide a format for assessing project impacts and providing input to the CHSRA. According to the Peninsula Rail Program's web site: "The toolkit offers techniques, processes and formats for community members and cities, homeowners, and transportation and resource agencies technical staff to communicate with the project team to shape desirable, feasible and achievable solutions for the corridor."

The CSS Toolkit includes two exercises:

- Exercise 1—Mapping Community Context. In this exercise, the stakeholder (which can be an individual, group or agency) completing the exercise uses symbols and comment areas to locate and identify on a map issues and opportunities important to that stakeholder. Examples of issues include noise and vibration, visual characteristics, safety, station accessibility and connectivity.
- Exercise 2—Grade Separation Methods (for Vertical Options). This exercise was developed by the Peninsula Rail Program to assess whether grade separation alternatives (aerial viaduct, at-grade, trench, etc.) meet stakeholder goals. It includes a matrix of each vertical grade separation method and a list of 12 stakeholder categories and example goals to be assessed. Stakeholders are asked to include the reason for each assessment and to consider the varying impact of the different grade separation alternatives.

After release of the AA, the CHSRA announced that there was no formal deadline for submitting comments on the AA, though the sooner they are received, the more likely they can be incorporated into the environmental review process. At the May 13, 2010 Technical Working Group meeting, the CHSRA announced that they now request that comments be submitted by June 30, 2010.

The CHSRA has partnered with cities along the Peninsula to conduct community meetings to share information about the project and gain public input on the rail alternatives. The meeting in Mountain View was held May 3, 2010 at the Senior Center and was attended by approximately 135 people. Attendees assembled into groups of

10 to 20 to hear a presentation from CHSRA staff on the alternatives, ask questions and provide comments. A summary of the meeting is provided as Attachment 1. Many attendees raised concerns about noise, vibration and safety, and many also wanted additional information to understand the impacts of HSR.

On May 11, 2010, the Downtown Committee heard a staff presentation on the AA and the vertical alignment options. The Downtown Committee will hold a special meeting on May 25, 2010 to consider this item again and possibly make a recommendation to Council. Staff will provide an update to Council on the Downtown Committee's action at the Study Session.

The City requested that the CHSRA include Mountain View as a candidate for the proposed Mid-Peninsula HSR station, along with Palo Alto and Redwood City. The AA provides information on the length and width of possible HSR/Caltrain stations, but the CHSRA is still developing the criteria for the support structures, such as ticketing, rest rooms, other station infrastructure and amenities. Additional information on parking requirements, ridership and traffic are still being developed. The CHSRA plans to present this information to the candidate cities in August or September. Because of this, staff's analysis assumes only a Caltrain station platform in downtown Mountain View. Once additional details are available, staff will analyze the affects of a combined HSR/Caltrain station.

## **ANALYSIS**

In addition to staff's analysis of the AA, the City employed the urban design firm Van Meter Williams Pollack to assist with the analysis and Freedman, Tung & Sasaki to prepare conceptual drawings of how each HSR alternative might look at the City's two grade separations, Rengstorff Avenue and Castro Street (see Attachment 2—Castro Street Conceptual Drawings and Attachment 3—Rengstorff Avenue Conceptual Drawings). A drawing is provided for each intersection showing an at-grade, above-grade and below-grade rail system. For Castro Street, the view is looking towards the northwest and for Rengstorff Avenue, the view is looking towards the northeast. In addition to existing buildings and roadways, the drawings show the proposed rail system, changes to existing roadways and sidewalks, and possible additional amenities such as pedestrian bridges and, in some cases, new buildings. The drawings are based on very preliminary information from the CHSRA and were prepared to give the City Council and community an idea of what these areas might look like with each rail alternative.

A brief analysis of right-of-way considerations in Mountain View and the three vertical rail alignment alternatives is provided below.

### **Right-of-Way**

According to the AA, the nominal right-of-way width required for the three alternatives analyzed in Mountain View are as follows:

Alternative	Right-of-Way Required for Tracks	Right-of-Way Required for Caltrain Station
Aerial Viaduct	79'	112' to 139'
At-Grade	96'	123' to 136'
Open/Covered Trench	96'	121' to 137'

In Mountain View, the existing right-of-way is roughly as follows:

Area	Existing Right-of-Way
Palo Alto City Limit to Castro Street	90' to 100'
Downtown Transit Center (including parking lot)	215' to 230'
Downtown Transit Center to Sunnyvale City Limit	70' to 90'

There is sufficient to nearly sufficient right-of-way between Palo Alto and Castro Street for any of the alternatives except at the San Antonio Caltrain station, where the existing right-of-way is 90' wide. Assuming the San Antonio station remains at its present location, 22' to 49' of additional right-of-way is required.

While there is sufficient right-of-way at the Downtown Transit Center for the HSR tracks and a Caltrain station, much of the right-of-way is occupied by the bus drop-off area and Transit Center parking. The AA also does not include a cross section showing the Valley Transportation Authority light rail tracks or station.

Between the Downtown Transit Center and Sunnyvale, the existing right-of-way is not sufficient for any of the alternatives. The rail corridor through this area is bounded by Central Expressway and Evelyn Avenue, so additional right-of-way would likely be taken from one of those streets if needed.

### **Vertical Alignment Alternatives**

#### **Aerial Viaduct (Above-Grade Alternative)**

The aerial viaduct is only shown in Mountain View between Stevens Creek and Palo Alto because the CHSRA assumed that the Highway 85 and Highway 237 overcrossings could not be relocated to clear the way for an above-grade train. The structure would

be approximately 80' to 100' wide. The rails would be approximately 27' above ground, and the top of the poles supporting the electrification system would be approximately 52' above ground. The aerial structure between Castro Street and Palo Alto would require reconstructing the Shoreline Boulevard and San Antonio Road overcrossings at or below grade the clear the way for the rail structure.

Some of the advantages and disadvantages of the aerial viaduct are as follows:

#### *Advantages*

- This option provides the fewest impacts to existing infrastructure, including roadways, utilities and creeks. Reconstructing Rengstorff Avenue and Castro Street for grade separations is not necessary.
- The aerial viaduct requires least amount of right-of-way.
- The rail is separated from existing at-grade pedestrian and vehicle crossings. Pedestrians and bicycles do not have to use underpasses or overpasses to cross the rail.
- The area beneath the aerial structure could be developed for some beneficial use. Ideas such as buildings, parking and recreational uses have all been discussed. Little information is available about the development possibilities under an elevated structure.

#### *Disadvantages*

- The aerial viaduct would have the largest negative impact on the community in terms of noise and vibration. Elevating the rail system would allow the sound to travel further and likely impact a larger portion of the community.

While electrification of Caltrain and elimination of train horns at at-grade road crossings would reduce rail noise, there would be more and faster trains, and there will still be diesel-powered freight trains. The CHSRA is preparing a noise study that will provide additional information about each alternative.

- The aerial viaduct has the greatest negative visual impact on the community. While very little information about the detailed design of an elevated structure was available in the AA, enough was provided to indicate that the size and scale of structure required to elevate the HSR/Caltrain/freight rails is akin to an elevated freeway structure bisecting the City and would dramatically change the view along the entire corridor. The FTS cross section of Castro Street with the aerial

structure in the background (see Attachment 3) shows the structure behind the train depot building at Centennial Plaza and gives an idea of the size and scale of the structure viewed from Castro Street.

- The aerial viaduct requires removal of the existing San Antonio Road and Shoreline Boulevard overpasses over Caltrain and Central Expressway. These are very busy roadways, carrying approximately 45,000 and 35,000 vehicles per day, respectively. The City made a significant investment in elevating Shoreline Boulevard to relieve congestion at the intersection of Shoreline Boulevard and Central Expressway, and the potential traffic impacts associated with restoring these interchanges to at-grade intersections are of great concern. If this option is carried forward for further consideration, these impacts should be thoroughly studied.
- Development of the area under the structure is limited by structural columns and lack of natural light. Landscaping opportunities are limited or nonexistent.
- The aerial viaduct is not an option south of Castro Street because the CHSRA has assumed that the Highway 85 and Highway 237 overcrossings will remain.
- The aerial viaduct is more costly than the at-grade alternative (though less costly than the below-grade alternative).

In communities where the Caltrain tracks are already on a berm, the aerial viaduct may be seen as a favorable alternative because it opens the area under the tracks for views, connectivity and other uses such as parking. In Mountain View, where Caltrain is at grade, the height and scale, potential noise impacts and the need to reconstruct Shoreline Boulevard and San Antonio Road at grade are serious concerns.

#### At-Grade Alternative

The at-grade alternative consists of four tracks at approximately the existing elevation of the existing Caltrain tracks. One or two existing tracks for light rail must also be accommodated south of Castro Street. The electrification system would be visible on 25' tall poles along the corridor. The existing roadway crossings at Castro Street and Rengstorff Avenue would be eliminated with grade separations (or closure if deemed acceptable by the City). Some of the advantages and disadvantages of the at-grade system are as follows:

#### *Advantages*

- Stations can remain at grade, which is more convenient for passengers.

- It is the least costly alternative.

#### *Disadvantages*

- Wide rail right-of-way that cannot be crossed at grade by vehicles or pedestrians creates a barrier in the community.
- A Castro Street underpass would cut off buildings on the first blocks of Castro Street and Moffett Boulevard from the street and would cut off Evelyn Avenue from Castro Street.
- Additional right-of-way is required to accommodate HSR, Caltrain/freight and light rail.
- The overhead electrification system creates a visual impact.
- The at-grade alternative is less noisy than the elevated alternative but more than the trench alternative.

#### Below-Grade Alternative

Below-grade includes both HSR and Caltrain/freight in an open trench or a closed trench/tunnel. Advantages and disadvantages include:

#### *Advantages*

- Has the lowest noise impact of any alternative.
- Has the lowest visual impact of any alternative.
- Vehicles and pedestrians can stay at existing grade to cross HSR and Caltrain/freight corridor.
- The potential exists to cover HSR and develop the area for some beneficial use. Examples include buildings on trench caps at Castro Street or a linear greenway as shown on the FTS drawings.

#### *Disadvantages*

- It is the most costly alternative.

- Conflicts with creeks and possibly Hetch-Hetchy water lines. Must go under or over Stevens and Permanente Creeks.
- Caltrain stations would be below grade.

### Cost

The AA contains preliminary construction cost estimates for the alternatives in each segment of the corridor between San Jose and San Francisco. According to the AA: "The construction costs estimates based on the conceptual design presented in this appendix are order-of-magnitude cost comparisons of the different design options and do not represent total costs for the project." The costs are not broken down by city. The cost estimates include installation of the HSR improvements and required modifications to the Caltrain tracks, modification of existing Caltrain stations, electrification of both HSR and Caltrain, and required grade separations. The estimates do not include right-of-way costs, temporary construction easements or a mid-Peninsula HSR station.

The costs for each alternative in Subsections 7A through 7D, which includes the portion of the project from Adobe Creek in Palo Alto to south of Sunnyvale Avenue in Sunnyvale, are as follows (in 2009 dollars):

• Aerial Viaduct:	\$443,000,000
• At Grade:	\$262,000,000
• Below Grade (Open Trench):	\$1,155,000,000
• Below Grade (Covered Trench/Tunnel):	\$2,756,000,000

These numbers are very preliminary but, at the very least, give an indication of the order-of-magnitude cost differences that the CHSRA expects for the different alternatives.

### Comments on the AA

The City's comments will provide important feedback to the CHSRA as environmental review and design proceed. At the May 13, 2010 Technical Working Group meeting, the CHSRA gave guidelines for AA comments (Attachment 4). To provide comments, staff completed both CSS toolkit exercises (see Attachments 5 and 6).

Because the toolkit format is somewhat limiting, staff prepared a separate letter that allows free expression of the City's position on the alternatives. The draft comments incorporate staff's own judgment about the alternatives as well as input from the community. The comments are divided into: (1) general comments about the



document; (2) comments about the environmental/design review process; and (3) comments about the alternatives.

Some of the major points in the draft comments include:

- The AA does not adequately address the existence of the light rail tracks and station in downtown Mountain View. The light rail tracks and station are not shown on the cross sections in the AA, and the right-of-way requirements for the system are not addressed. This is a critical piece of existing transportation infrastructure in downtown Mountain View.
- The AA mentions loss of a traffic lane on Central Expressway to gain the necessary right-of-way for the proposed HSR improvements. The impacts of eliminating a lane on Central Expressway must be thoroughly studied and closely coordinated with the County and cities.
- With the limited information available to date and the anticipated release of a Draft Environmental Impact Report in December 2010, the City is concerned that the CHSRA will make decisions about preferred alternatives before the City and community have had a chance to thoroughly review the information, problems, issues and opportunities, and to work with the CHSRA to develop solutions that will meet common goals and objectives.
- The City of Mountain View is reviewing and providing comments, but the CHSRA needs to assist with coordination between adjacent agencies regarding preferred alternatives.
- Design goals of the HSR project must include avoiding further division of the community with the rail corridor and finding opportunities to improve connectivity across and along the corridor. This goal is consistent with feedback obtained during the 2008 General Plan Visioning process, where participants noted that physical barriers exist between residential neighborhoods, employment centers and transit stations, resulting in impeded access to transit and limiting connectivity.
- The City is very concerned about many aspects of the aerial viaduct (elevated alternative). A structure of that size and scale bisecting the City is out of character with existing developments and land uses.
- The at-grade alternative doubles the width of a rail corridor that is already a barrier in the community. Grade separations associated with the at-grade alternative force vehicles and pedestrians to travel below grade to cross the

corridor, which is far less preferable than remaining at grade, particularly for pedestrians.

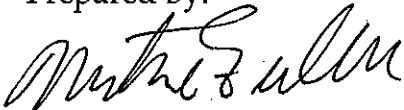
- The trench/covered trench alternative appears to minimize many of the impacts of the project, particularly visual and noise impacts and division of the community.

Complete draft comments are provided as Attachment 7. The draft comments do not request that any of the rail alternatives be dropped from further consideration in Mountain View by the CHSRA. If Council wants an alternative dropped from further consideration, such a comment can be added.

### NEXT STEPS

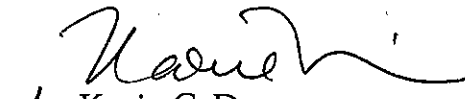
Based on comments at the Study Session, staff will revise the comments to the CHSRA and return to Council on June 8, 2010 for review and approval.

Prepared by:



Michael A. Fuller  
Public Works Director

Approved by:

  
Kevin C. Duggan  
City Manager

MAF/2/CAM  
905-05-25-10M-E^

- Attachments:
1. May 3, 2010 Public Meeting Summary
  2. Castro Street Conceptual Drawings
  3. Rengstorff Avenue Conceptual Drawings
  4. CHSRA Guidelines for AA Comments
  5. CSS Toolkit Exercise 1
  6. CSS Toolkit Exercise 2
  7. Draft Comments (Draft Letter to CHSRA)

cc: PM—Kim

**High-Speed Rail Meeting  
Summary  
May 3, 2010**

General

- A number of individuals expressed frustration with California High-Speed Rail Authority (CHSRA) for not providing more information on noise, vibration, visual impacts, etc.
- A number of individuals felt they did not have enough information to make decisions/choices on certain categories in the toolkit.
- One group appeared to spend the breakout session just trying to understand the options and impacts to them and the City.
- What is the impact of the water table on the trench option? How about raising water table due to global warming?
- What are the set-back requirements from high-speed rail (HSR) right-of-way (for each option)?
- A few individuals wanted to know why maglev is not being considered when China already has one in service.
- A few individuals want the high-speed train to follow the Highway 101 alignment.
- One participant stated that the Authority's proposed alignments are not realistic since the Authority failed to investigate the need to maintain freight service from the Caltrain corridor to NASA/Ames.

Noise/Vibration

- In one breakout group, when CHSRA staff asked each participant to vote for their greatest concern about the project, noise, vibration and safety ranked the highest.
- Attendees wanted additional information on noise.
- Vibration impacts also need to be considered.
- Questions were raised on the impact of the aerial option—in particular on noise and vibration.

### Alternatives

- One group all voted in favor to eliminate the half-elevated and half-at-grade option.
- One breakout group voted "no" on the aerial option unanimously.
- Aerial not an option—no one wants to see it or hear it.
- Most wanted a cut-and-cover option.
- Possibility of closing Castro Street at rail right-of-way should be studied.
- Possibility of putting trains under Central Expressway should be studied.
- A number of members of one group were concerned about options that may impact the existing commercial developments at Rengstorff Avenue, particularly Mi Pueblo.
- One individual noted that the creeks should not be used as a deterrent in determining how high-speed rail goes through the City.

### Aesthetics

- Attendees wanted visual representations of the options. (What will they look like? How will the Castro Street and Rengstorff Avenue crossing "feel" to people living nearby, pedestrians, etc.?)
- When do the aesthetics required to make the project palatable to Mountain View residents make the project ineffective from a cost perspective?
- Wanted to see schematics of how it would look downtown with a new transit hub and new shuttles and cabs added.
- People do not want it to be "ugly."

### Pedestrian/Bicycle/Vehicle Impacts and Safety

- Bicyclists stated that they favor any grade separation that makes it effortless for them to make a north-south crossing at multiple locations.
- Pedestrian and vehicle access was an issue.
- Safety and prevention of suicides a concern.

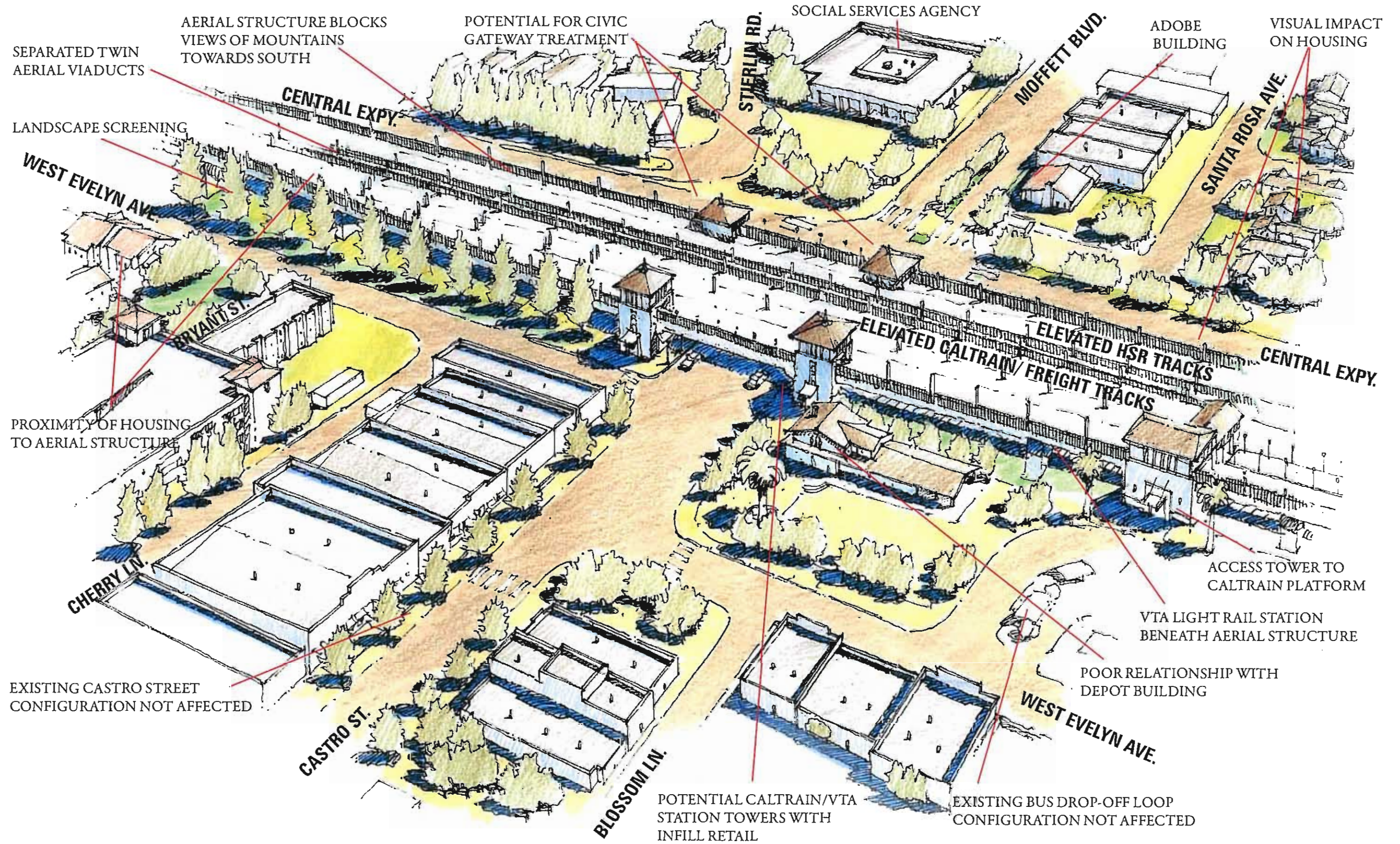
- Aerial option will make Shoreline Boulevard an at-grade intersection with Central Expressway, thus impacting pedestrian/bike connectivity negatively.
- People were concerned about safety at any of the crossings due to faster and more frequent trains.

#### Station

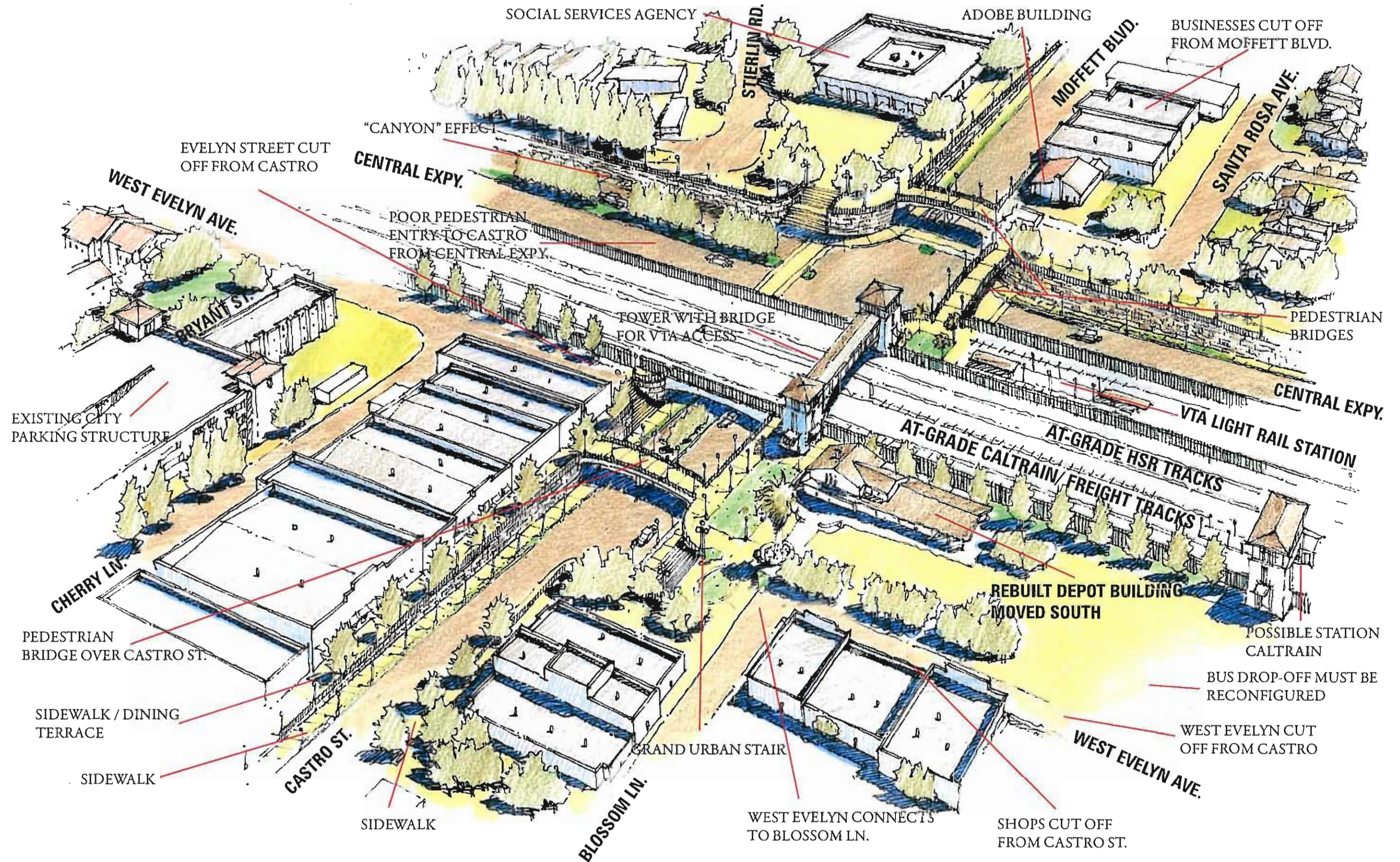
- Many felt it did not make sense to have a high-speed train station in Mountain View and that there should be no stops between San Jose and San Francisco.
- More information needed about potential parking and traffic impacts associated with a station. (Will the parking be on- or off-site? Will there be a parking structure?)
- If Caltrain service improves, why does HSR need to stop in Mountain View?
- Concerned about impact to Mountain View with 2,000 to 3,000 people coming into the City daily.

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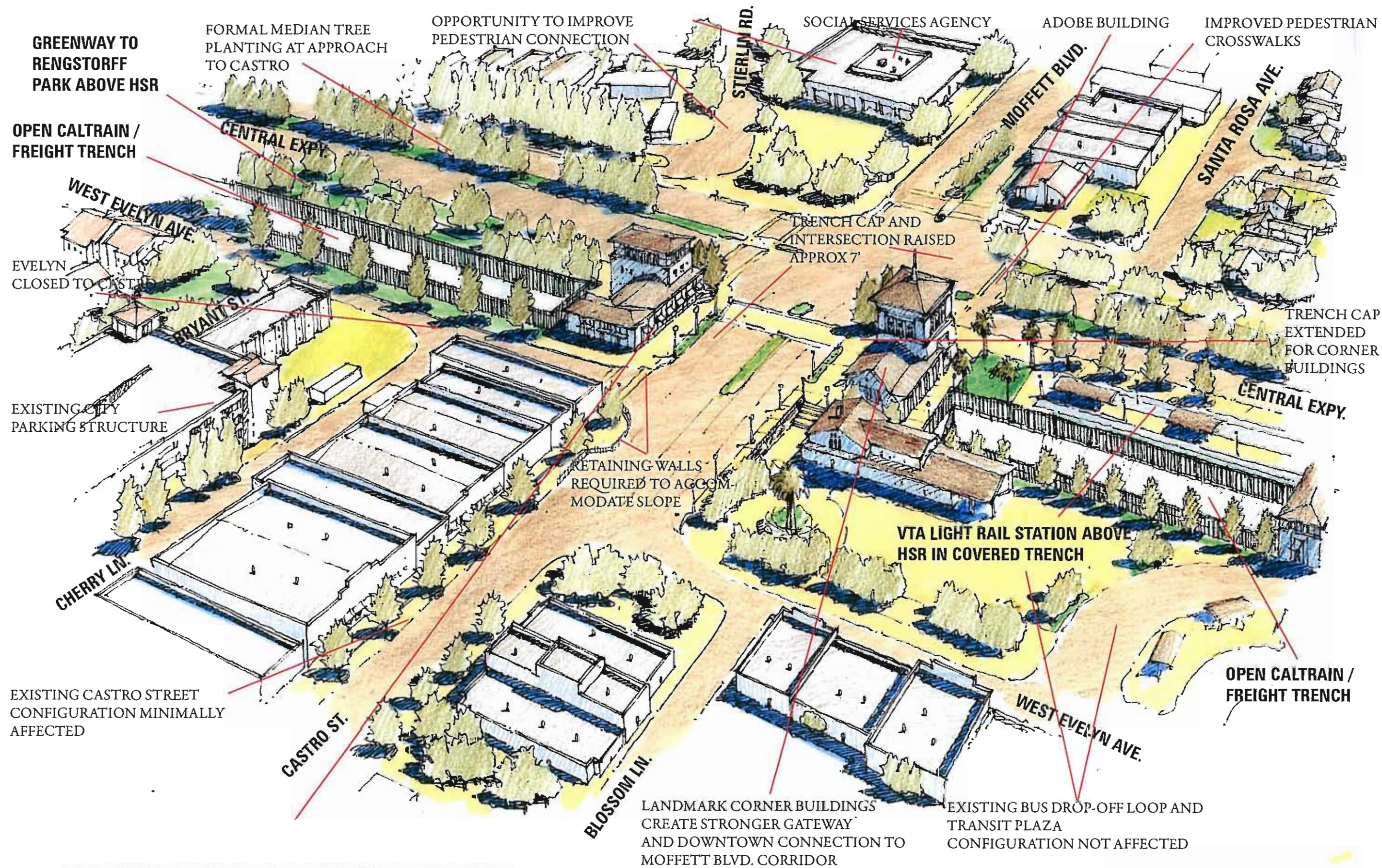




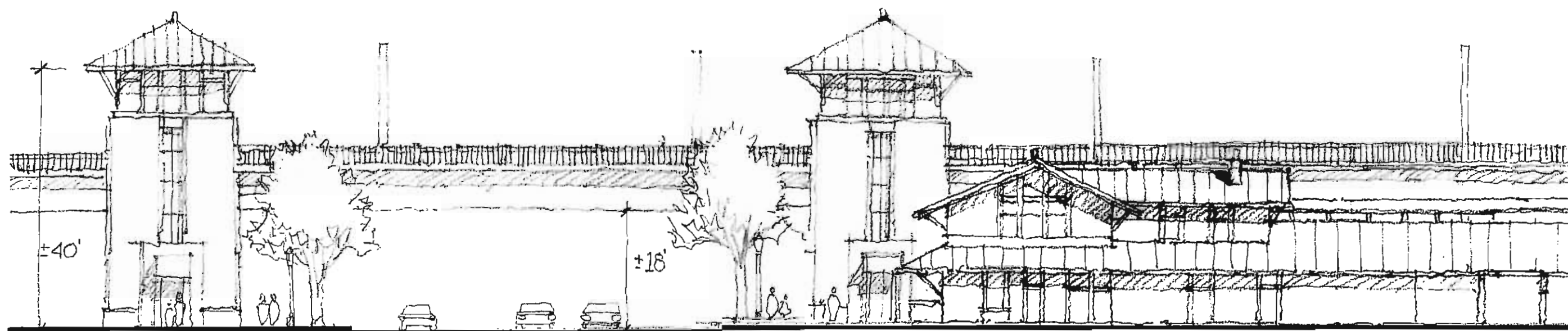












CASTRO STREET

(REBUILD DEPOT BUILDING ON RIGHT)

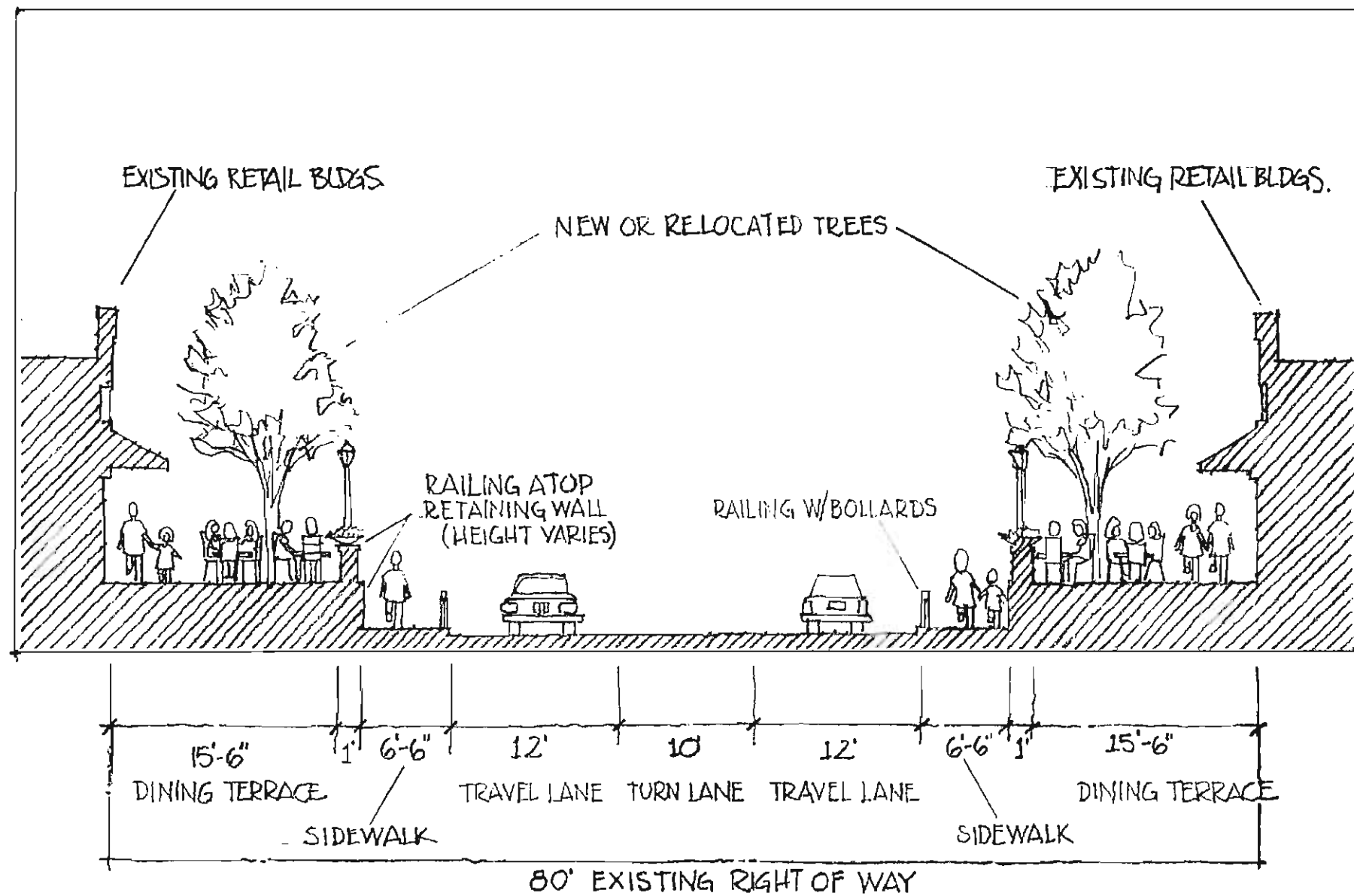
CITY OF MOUNTAIN VIEW - HIGH SPEED RAIL ANALYSIS

ELEVATION LOOKING NORTH FROM CASTRO OF AERIAL STRUCTURE WITH TOWERS

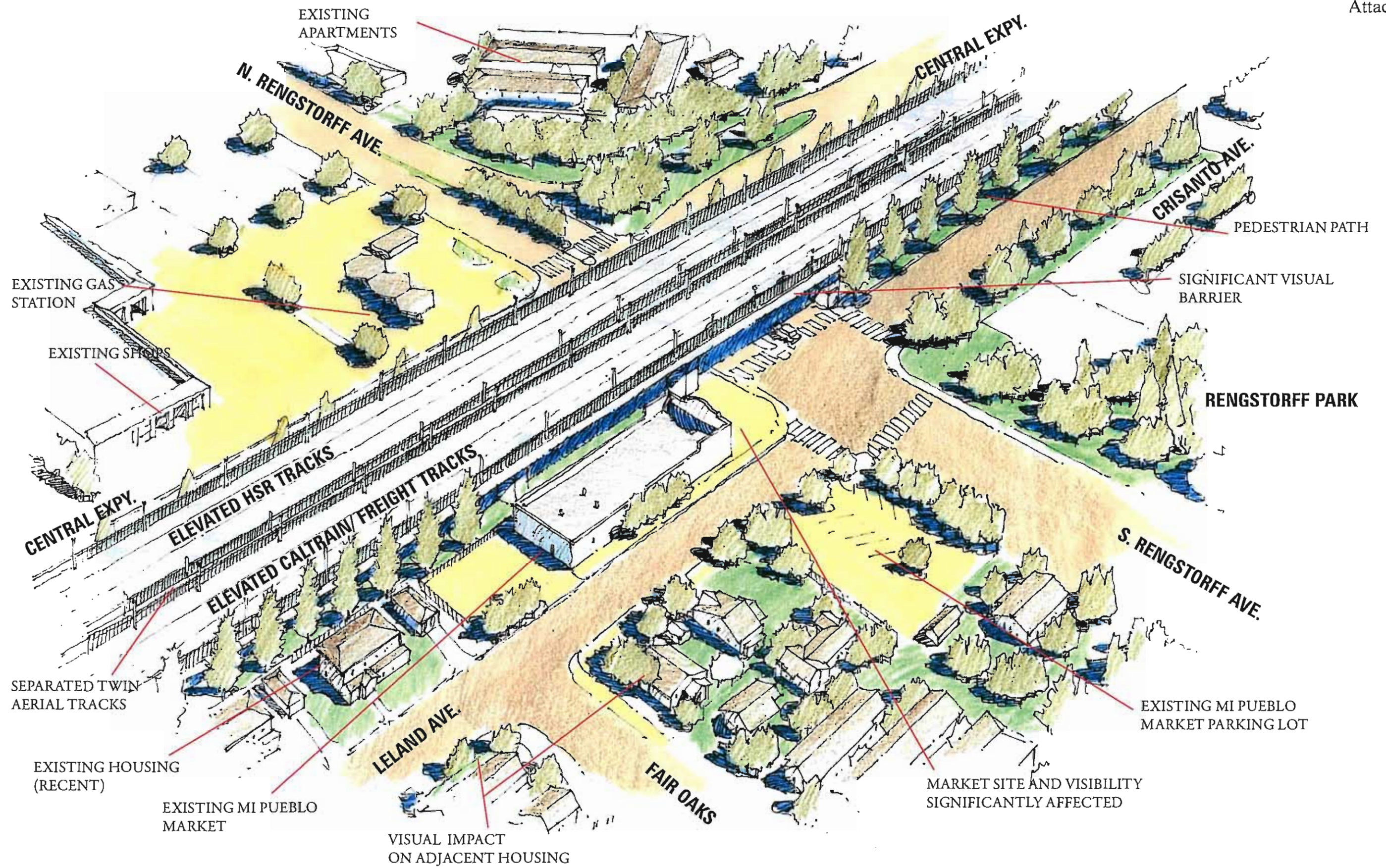
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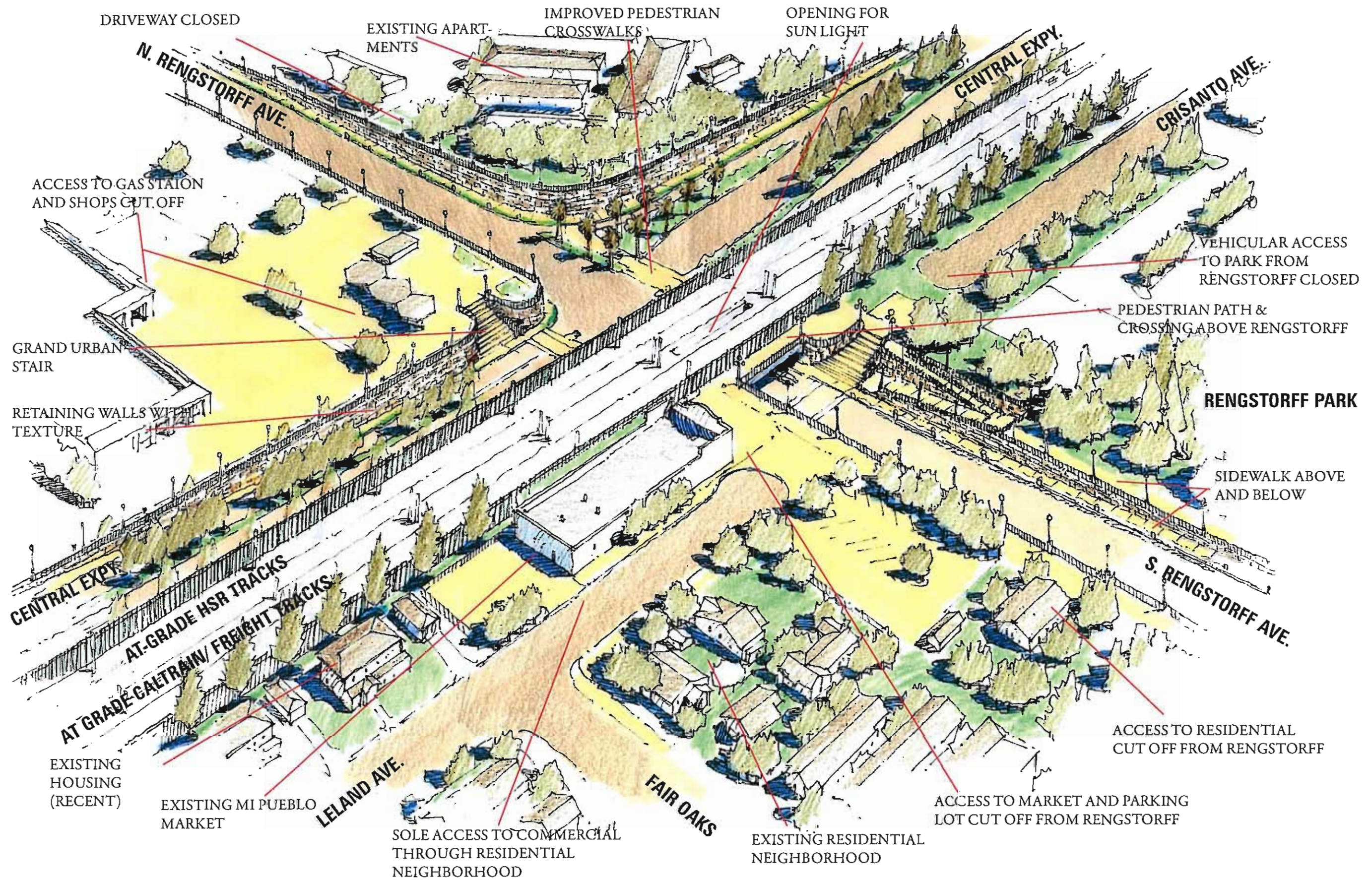
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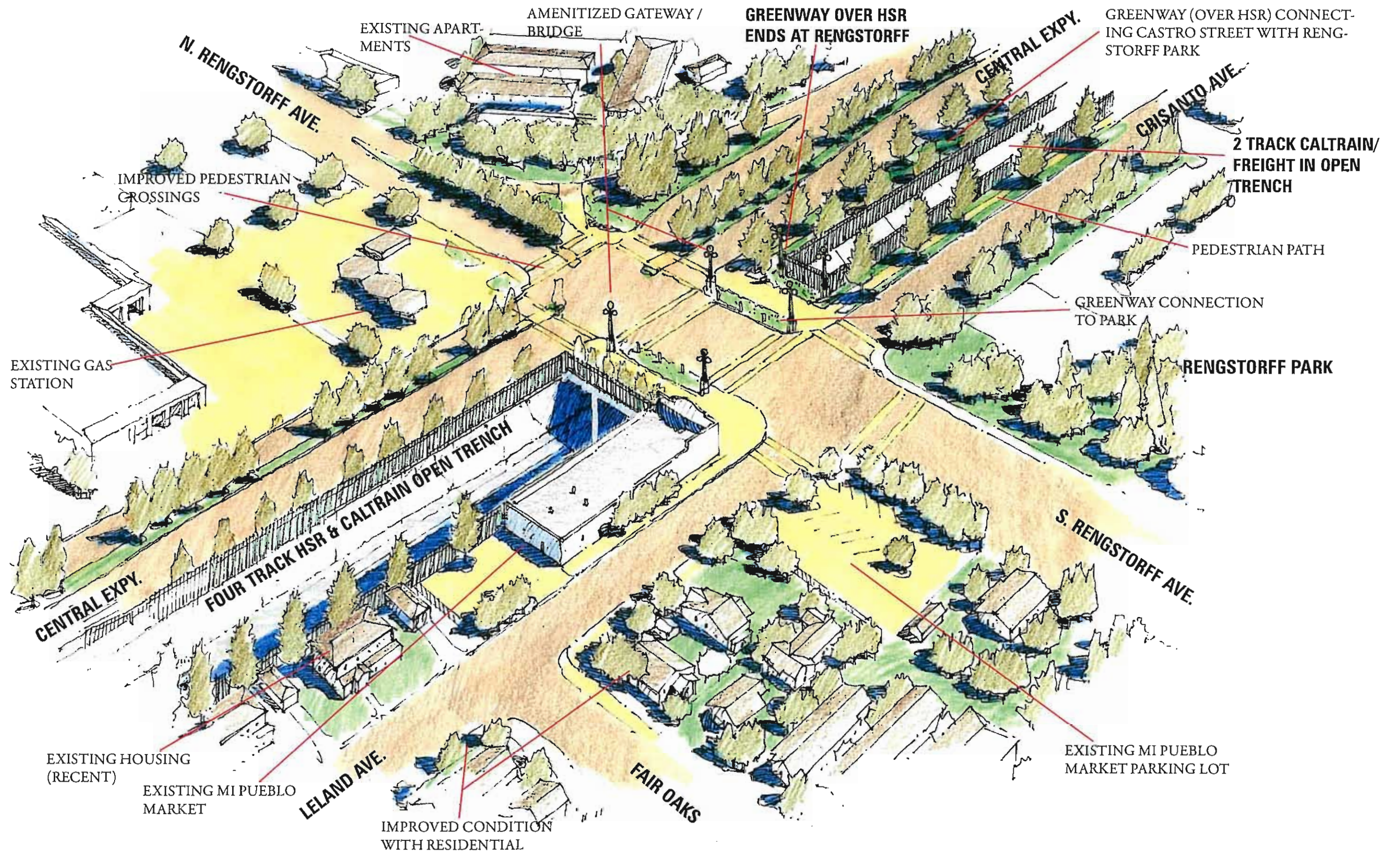














*We are requesting that comments be received by June 30, 2010.*

**Keep comments focused on the alternatives.** Comments related to other issues won't be addressed as part of the Supplemental Alternatives Analysis.

**Be specific.** Comments are easier to understand and address if we know specifically what your community is concerned about. Use the goals that have been developed as a guide (See Issues and Opportunities Matrices on the PRP website for specific goals) to ensure that we are using a common vocabulary. Consider giving examples of what you are interested in or concerned about.

**Comment on each alternative.** While we expect that each city will have a preference among the alternatives under study, it is critical to obtain feedback on all the alternatives, which will inform the cost/benefit analysis as the project is further defined.

**Focus on what works (and what doesn't) and why.** Use the goals that we have developed to test whether a particular alternative works from your city's perspective. Please indicate which goals it meets or doesn't meet, and where, geographically speaking, an alternative causes concerns. (i.e. The aerial alternative causes concerns about noise and visual impact in the residential neighborhoods at the north end of our city.)

**Consider what would need to happen in order to make alternatives work.** Be creative and consider what mitigations or amenities might be necessary in order to make each alternative the best for your community. (i.e. The open trench alternative would be optimized if the area between Street X and Street Y near City downtown were covered creating a new civic plaza.)

**Consider how combinations of alternatives might be best to meet different priorities in different parts of your city.** Not all solutions work for all areas. Consider how to use the potential transitions that have been called out to identify combinations of alternatives that best address your community needs.

**Consider talking with your neighboring cities about comments that are consistent between your communities.** Keep in mind that there are 18 communities along the corridor and not all of them have the same priorities and that the alternatives in one community can affect the alternatives in the next community. These areas will require strong communication and coordination between communities. Perhaps it is possible to work together to envision how different solutions could cross city boundaries.

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PUBLIC WORKS

**EXERCISE 1 - MAPPING COMMUNITY CONTEXT**

San Francisco to San Jose on the Caltrain Corridor



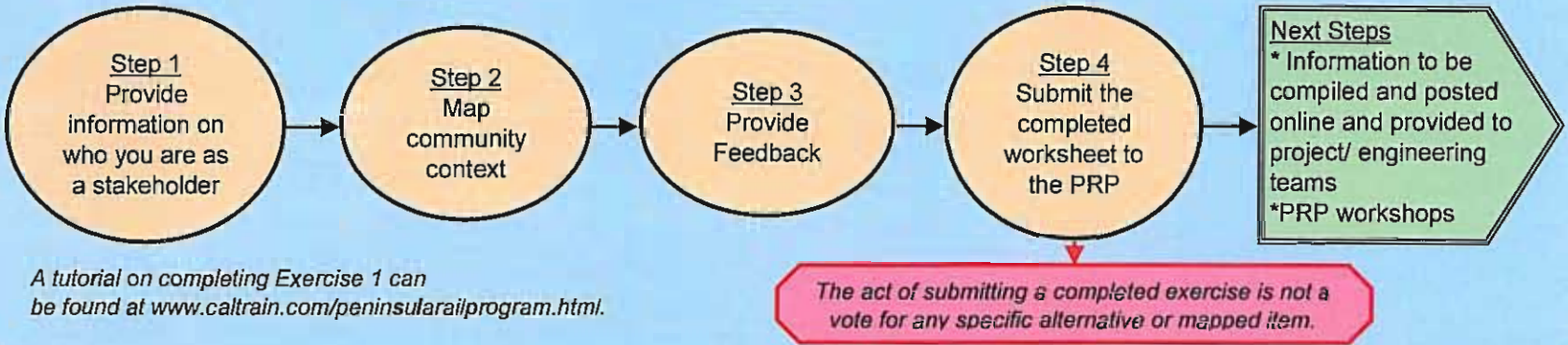
**Context Sensitive Solutions (CSS) "Toolkit"**

This Exercise is part of a broader CSS toolkit of public engagement activities. It is a mechanism for communities and stakeholder groups to engage in dialogue and have their ideas and concerns communicated to the city representatives and project team regarding the project throughout the preliminary engineering/environmental process. The toolkit will provide each community and stakeholder group a foundation for an accessible, consistent, unified and equitable community engagement approach along the corridor.

The toolkit includes (1) *Reference Documents* that provide contextual and technical information and (2) *Exercises* designed to facilitate stakeholder input and feedback on the project design to the project team. References will aid in broader understanding of the project context and completion of the exercises. Because the exercises are technical in nature, participants are welcome to select any combination of references and/or exercises which suit their particular interest.

**Exercise 1 - Mapping Community Context**

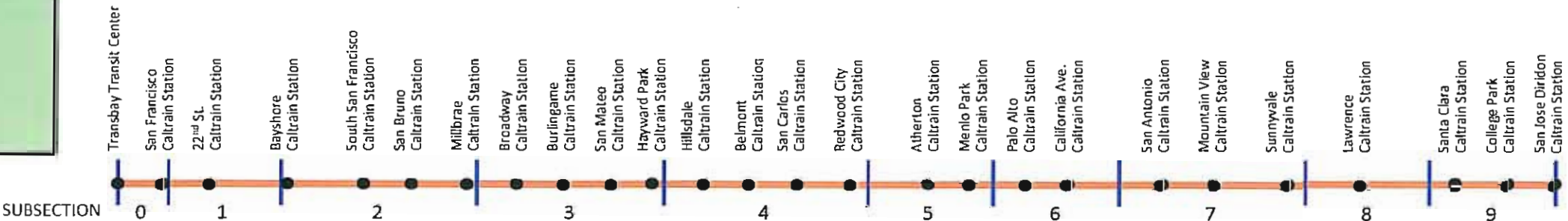
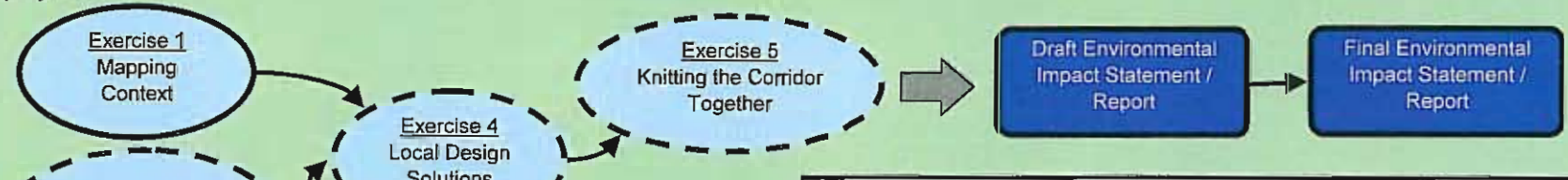
Exercise 1 is the first of five exercises and is focused on enabling participants to identify and locate specific issues and opportunities along the corridor that must be considered with the design of high-speed train project alternatives. This exercise can be completed individually or with a group.



A tutorial on completing Exercise 1 can be found at [www.caltrain.com/peninsularailprogram.html](http://www.caltrain.com/peninsularailprogram.html).

**Next Steps**

The feedback obtained from the Exercises will be compiled for each subsection and the summary of responses will be made available online. Responses will not be tallied or weighted, nor will frequencies be recorded. When comments are in conflict, all will be recorded in the summary document. City representatives and project/engineering team members will use the summary documents as references in developing the project further.



**Step 1. Getting started.**

Worksheets have been developed for each subsection of the rail corridor (see diagram at the bottom of the page). Ensure that you have selected the correct worksheet for your subsection(s) of interest.

If this worksheet reflects the analysis of a single individual, select "Individual". If this worksheet reflects the consensus of a group of stakeholders, select "Stakeholder Group" and note who the group is.

In addition, identify the sub-subsection (i.e. a, b, etc.) of interest to you and the stakeholder type that best represents who you are.

**Was this worksheet completed by:**

By an individual ☐  
By a stakeholder group? ☒ City of Mountain View  
Group name:

Date completed: May 19, 2010

**Provide additional details**

City/County: City of Mountain View

How far is your home/property/neighborhood from the Caltrain right of way?

Within 300 feet ☒  
300 ft to 1/2 mile ☐  
over 1/2 mile ☐

Which stakeholder group(s) do you belong to?

Resident ☐ Environment ☐  
Business ☐ Transit/Transportation ☐  
Labor ☐ Freight ☐  
Caltrain/HST rider ☐ Regulatory/Funding ☐  
Other (please state) Local Agency



Step 2. Map community context.

Review the following list of design considerations and map the location of any identified items by placing the respective symbol on the provided right of way maps (via drawing by hand or copy-and-paste within excel). The maps provided in this worksheet are to be used for the purpose of collecting community context only.

At the bottom of each page, provide some additional descriptions on the items located on the maps. Any additional descriptions you may provide will be helpful in ensuring that the project team fully understands the identified items.

Design Considerations

1. Noise and Vibration. City staff is providing input on the location of sensitive receptors in their respective cities. Please email PRP@caltrain.com to request the sensitive receptors information. You can also indicate any locations that are particularly sensitive to noise (i.e. day cares, hospitals, etc).

2. Visual Character. Can you locate where and how a project alternative could substantially affect the visual character, scenic, park, natural or historic resources of your area?

3. Safety. Can you identify and locate any specific areas requiring attention to vehicular, pedestrian or bicycle safety along the rail right of way or at street crossings?

4. Station Accessibility. Can you identify and locate opportunities to enhance pedestrian, bicycle and vehicular access to and from a Caltrain station to nearby residential neighborhoods, commercial areas or the downtown in your area?

5. Connectivity. Can you identify and locate opportunities to enhance east/west pedestrian, bicycle and vehicular connectivity, including connecting neighborhoods to park, school, shopping and community resources?

6. Community Design. Please describe the land use and community design vision for your sub section along the right of way. What are your communities key goals for future change? What transit-oriented development policies and guidelines do you have for your station area? Does your community front or back onto the corridor?

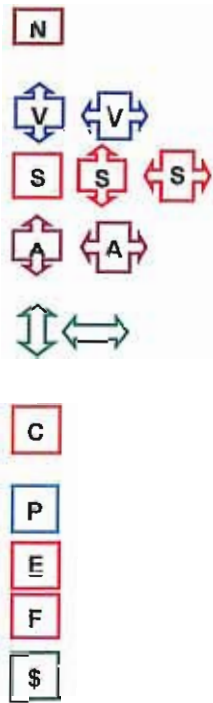
7. Adjacent Properties and Streets. Please identify properties and land uses that adjoin the right of way that could be impacted by the project alternatives.

8. Equity. Please identify and locate any minority and low-income communities and locally owned businesses that could be affected by alignment alternatives.

9. Freight Operations. Please identify freight customers along the right of way in your subsection.

10. Economic Vitality. Identify and locate where rail transit access to local employment, commercial centers and downtown needs to be maintained or enhanced for your sub-section.

Symbols

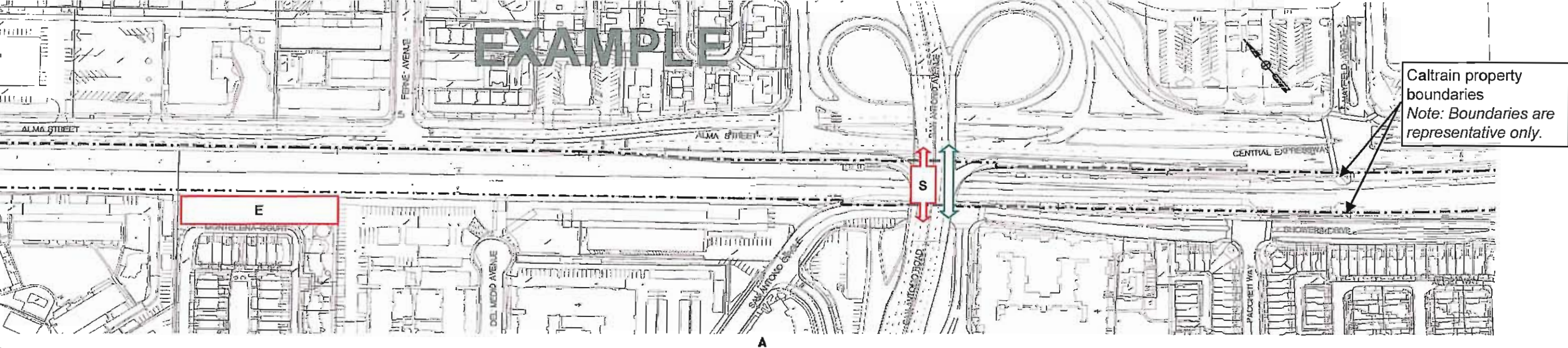


These symbols can be copied and pasted directly onto the right of way maps in excel. Resize and rotate as necessary.

-OR-

Draw the symbols on the maps if you are preparing the worksheet by hand.

**EXAMPLE:** The following is an example depicting the use of the symbols. The identified design considerations are examples only and MAY NOT accurately represent the design considerations for this section.



100 0 100 200

NOTE: CALTRAIN RIGHT OF WAY BOUNDARIES ARE REPRESENTATIVE ONLY.

Provide descriptions of items drawn and identified in the above maps.

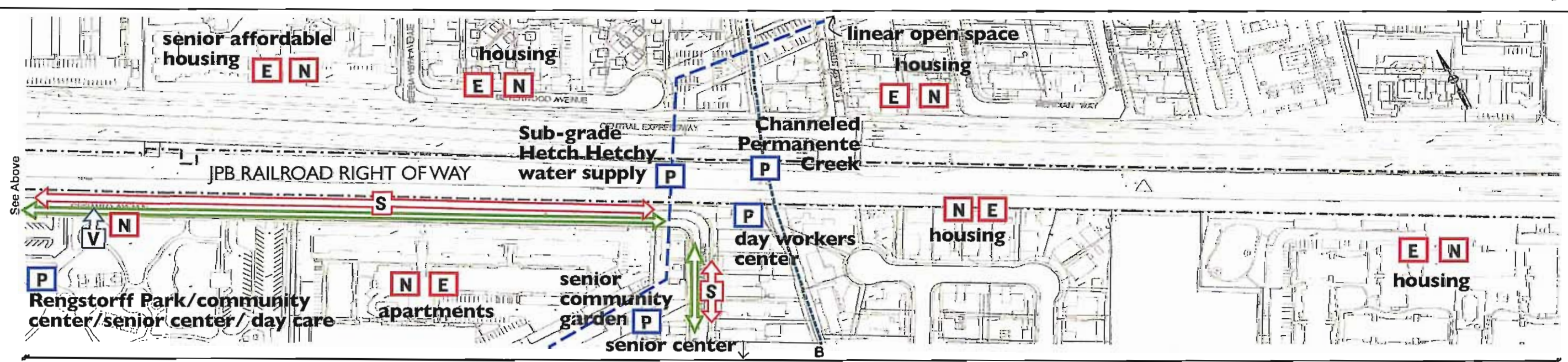
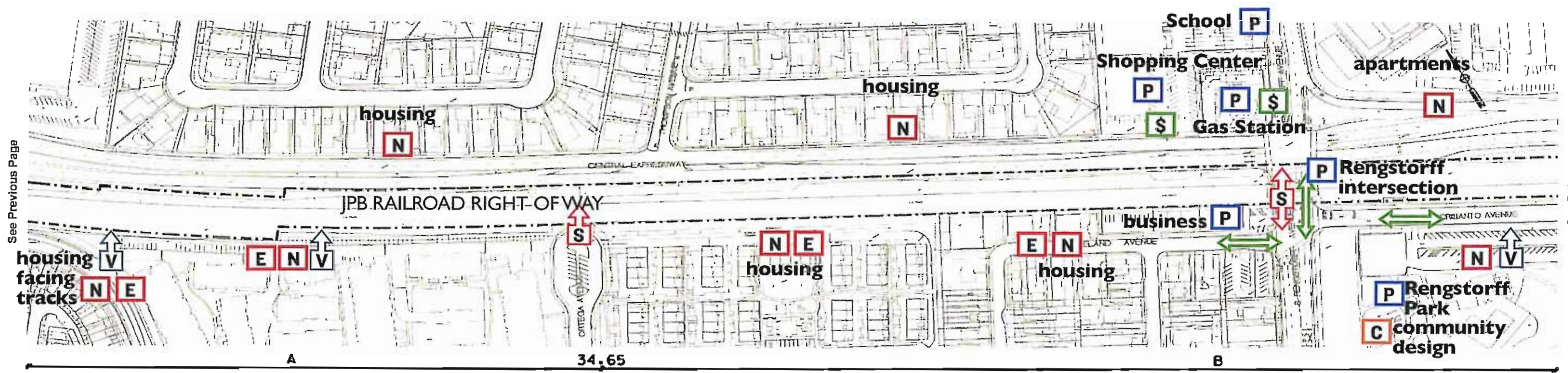
E: Minority businesses. Minimize impact.  
S at Rengstorff: Improve safety for crossings as crossing is used by nearby schools and businesses.  
Maintain cross connectivity at Rengstorff.  
Provide east side access to the San Antonio platform.

EXAMPLE









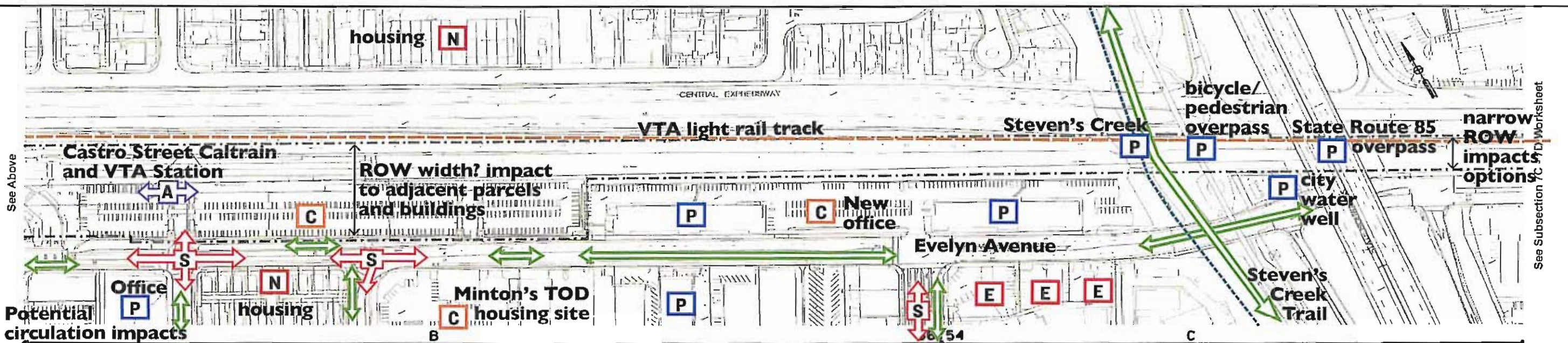
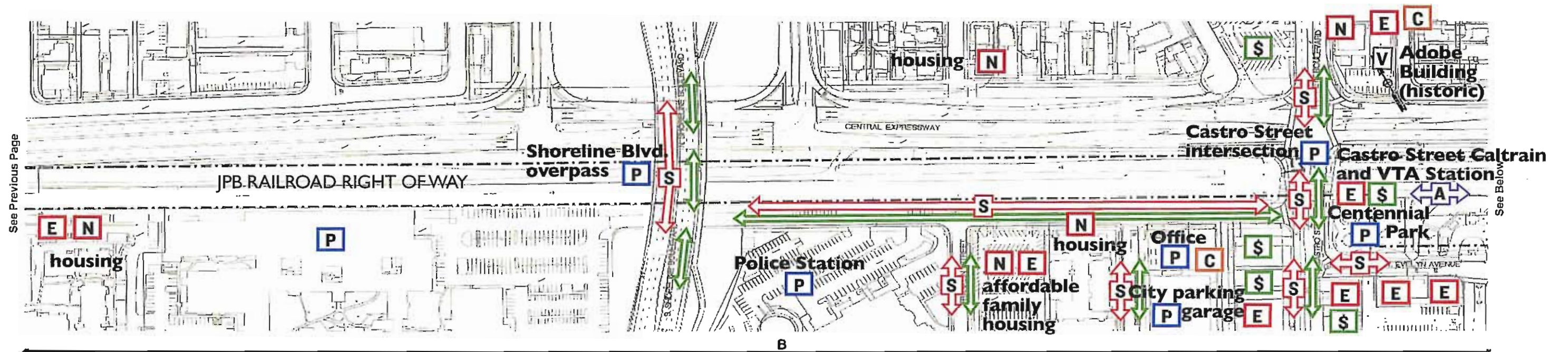
- Provide descriptions of items drawn and identified in the above maps.
- Safety and connectivity to Rengstorff Park, senior center, senior gardens and day workers' center.
  - Conflicts with Permanente Creek culvert and PUC Hetch Hetchy waterpipes.
  - Improve safety and connectivity at rail/Rengstorff/Central Expressway intersection.

NOTE: CALTRAIN RIGHT OF WAY BOUNDARIES ARE REPRESENTATIVE ONLY.

**LEGEND SYMBOLS**

Noise and Vibration		Station Accessibility		Adjacent Properties & Streets	
Visual Character		Connectivity		Equity	
Safety		Community Design		Economic Vitality	





100 0 100 200

Provide descriptions of items drawn and identified in the above maps.

- Better access to and from Caltrain/Light Rail. Historic downtown/Castro Street- visual character, safety, local businesses, maintain accessibility and connectivity.
- Community has a Downtown Precise Plan and an Evelyn Ave. Corridor Precise Plan for this area .
- Major physical impacts to streets, roads and adjacent properties. Major visual impacts, especially from Castro Street. Major connectivity impacts - station area as well as city circulation.
- Major economic vitality impacts, potentially to adjacent properties.
- Maintain the amount of existing parking at Castro Station, opportunity for parking structure.

NOTE: CALTRAIN RIGHT OF WAY BOUNDARIES ARE REPRESENTATIVE ONLY.

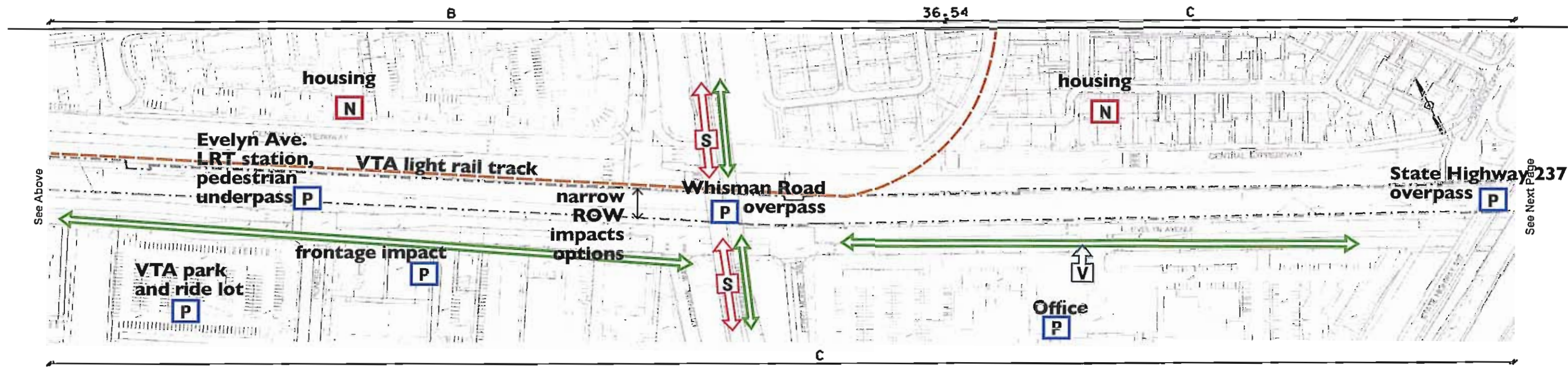
#### LEGEND SYMBOLS

Noise and Vibration **N**  
Visual Character **V**  
Safety **S**

Station Accessibility **A**  
Connectivity **C**  
Community Design **C**

Adjacent Properties & Streets **P**  
Equity **E**  
Economic Vitality **S**





100 0 100 200

Provide descriptions of items drawn and identified in the above maps.

- Maintain safety and connectivity on Whisman, required.
- How will VTA light rail station/pedestrian underpass integrate with HSR at grade?
- Bernardo - not currently connected over Central Expressway - possible improvement (bike/pedestrian or vehicle).

NOTE: CALTRAIN RIGHT OF WAY BOUNDARIES ARE REPRESENTATIVE ONLY.

**MOUNTAIN VIEW HIGH SPEED RAIL**

MOUNTAIN VIEW, CA | MAY 2010 | CITY OF MOUNTAIN VIEW, CA

**CHSRA/PRP CSS TOOLKIT  
EXERCISE I**

**LEGEND SYMBOLS**

Noise and Vibration **N**  
Visual Character **V**  
Safety **S**

Station Accessibility **A**  
Connectivity **C**  
Community Design **C**

Adjacent Properties & Streets **P**  
Equity **E**  
Economic Vitality **\$**

**VAN METER  
WILLIAMS  
POLLACK**

PAGE 4 OF 4



Ref No: CSS5\_002\_Exercise2\_GradeSepMethods  
Date: 3/31/10

**EXERCISE 2 - GRADE SEPARATION METHODS**  
San Francisco to San Jose on the Caltrain Corridor

**Context Sensitive Solutions (CSS) "Toolkit"**  
This Exercise is part of a broader CSS toolkit of public engagement activities. It is a mechanism for communities and stakeholder groups to engage in dialogue and have their ideas and concerns communicated to the city representatives and project team regarding the project throughout the preliminary engineering/environmental process. The toolkit will provide each community and stakeholder group a foundation for an accessible, consistent, unified and equitable community engagement approach along the corridor.

The toolkit includes (1) *Reference Documents* that provide contextual and technical information and (2) *Exercises* designed to facilitate stakeholder input and feedback on the project design to the project team. References will aid in broader understanding of the project context and completion of the exercises. Because the exercises are technical in nature, participants are welcome to select any combination of references and/or exercises which suit their particular interest.

**Exercise 2 - Feasibility Assessment of Typical Grade Separation Methods**  
Exercise 2 is the second of five exercises and is focused on assessing the feasibility of the typical methods for grade separating railroad tracks from roadways (i.e. aerial, trench, etc). This exercise is geared toward the Technical Working Group to assist cities in the preparation of their formal comments on the Draft Alternatives Analysis Report. However, the general public is not restricted from completing and submitting this exercise. This exercise can be completed individually or with a group.

A tutorial on completing Exercise 2 can be found at [www.caltrain.com/peninsularailprogram.html](http://www.caltrain.com/peninsularailprogram.html).

The act of submitting a completed exercise is not a vote for any specific alternative.

**Next Steps**  
The feedback obtained from the Exercises will be compiled for each subsection and the summary of responses will be made available online. Responses will not be tallied or weighted, nor will frequencies be recorded. When comments are in conflict, all will be recorded in the summary document. City representatives and project/engineering team members will use the summary documents as references in developing the project further.

Peninsula Rail Program  
Context Sensitive Solutions

**BEGIN EXERCISE 2 HERE**

**Step 1. Getting started.**  
If this worksheet reflects the analysis of a single individual, select "Individual." If this worksheet reflects the consensus of a group of stakeholders, select "Stakeholder Group" and note who the group is.

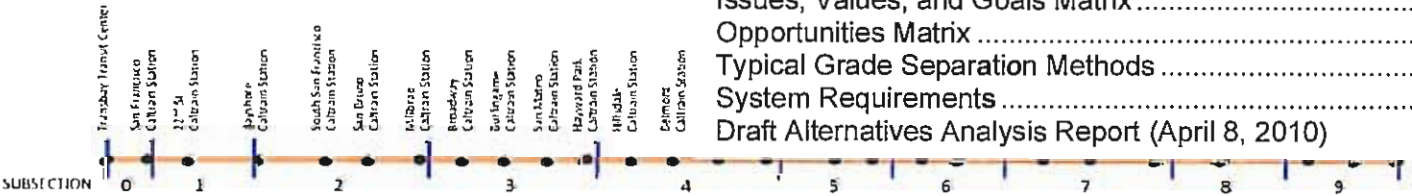
In addition, identify the sub-subsection (i.e. a, b, etc.) of interest to you and the stakeholder type that best represents who you are.

**Was this worksheet completed by:**  
By an individual ☐  
By a stakeholder group? ☒  
Group name: City of Mountain View  
Date completed: 5/19/10

**Provide additional details**  
Subsection (i.e. 1A, 2B) 7A-7D  
City/County: Mountain View/Santa Clara County  
How far is your home/property/neighborhood from the Caltrain right of way?  
Within 300 feet ☐  
300 ft to 1/2 mile ☐  
over 1/2 mile ☐  
Which stakeholder group(s) do you belong to?  
Resident ☐ Environment ☐  
Business ☐ Transit/Transportation ☐  
Labor ☐ Freight ☐  
Caltrain/HST rider ☐ Regulatory/Funding ☐  
Other (please state) City of Mountain View

**Step 2. Review available reference documents.**  
Please review the available reference documents to support project understanding and foster participation. Identify the documents that were reviewed to complete this exercise. This is important so the project team can understand the background used in your assessment and to determine what additional information will be required.

**Reference Documents - Check if Ref Doc was used in evaluation**  
Issues, Values, and Goals Matrix ..... ☒  
Opportunities Matrix ..... ☒  
Typical Grade Separation Methods ..... ☒  
System Requirements ..... ☒  
Draft Alternatives Analysis Report (April 8, 2010) ..... ☒


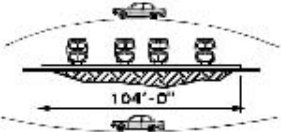

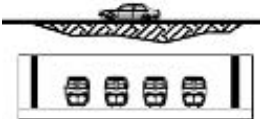


**Step 3. Conduct Preliminary Assessment of the Feasibility of the Typical Grade Separation Methods.** At the top of the table, circle the grade separation methods that are being considered for additional study in your subsection or sub-subsection of interest. Grade separation methods being considered can be found in the Alternatives Analysis Exhibits or in the Draft Alternatives Analysis Report (anticipated release date of April 8, 2010). Both can be found on the California High-Speed Rail Authority's webpage, under the San Francisco to San Jose Section in the Library, at: <http://www.cahighspeedrail.ca.gov>.


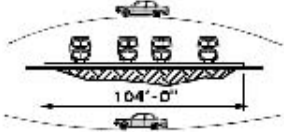


For each circled grade separation method, conduct an assessment of whether it meets or does not meet the goals for all stakeholders for each of the categories. You can answer:  
(Y) Yes, the method meets all/most goals  
(N) No, the method does not meet goals  
(I) Additional information is needed, or  
(N/A) The specific category is not applicable.


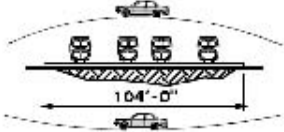

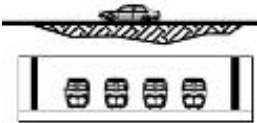
For the project team to understand your assessment, please provide the reason why you reached that conclusion and the information that you are basing your conclusion on in the table cell for each grade separation method. In making your assessment, give attention to:  
(1) varying impacts of the different grade separation methods  
(2) systemwide requirements that may impact grade separation method, and  
(3) the extent to which stakeholder goals can be met.

For hybrid options that are applicable for your subsection (for example elevated high speed train and at-grade Caltrain), use the last column and identify the hybrid option being assessed.


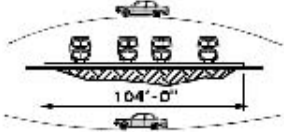


Stakeholder Categories  (Example Goals are provided for each category. Additional Goals may apply. Refer to Issues, Values, and Goals Matrix.)	Aerial Viaduct  	At-Grade  	Open Trench  	Closed Trench (Cut-and-Cover)  	Hybrid (Caltrain and HST on different vertical options)
<b>Noise &amp; Vibrations</b> - Do not exceed current levels of train-related noise and vibrations. - Minimize noise impact to sensitive receptors (hospitals, senior homes, daycare centers, etc)	I –The City is concerned about the potential impacts of noise and vibration at different locations within the HSR corridor. Additional studies are needed to provide noise and vibration information at different locations and intervals throughout the City.	I –The City is concerned about the potential impacts of noise and vibration at different locations within the HSR corridor. Additional studies are needed to provide noise and vibration information at different locations and intervals throughout the City.	I –The City is concerned about the potential impacts of noise and vibration at different locations within the HSR corridor. Additional studies are needed to provide noise and vibration information at different locations and intervals throughout the City.	I –The City is concerned about the potential impacts of noise and vibration at different locations within the HSR corridor. Additional studies are needed to provide noise and vibration information at different locations and intervals throughout the City.	I –The City is concerned about the potential impacts of noise and vibration at different locations within the HSR corridor. Additional studies are needed to provide noise and vibration information at different locations and intervals throughout the City.
Corresponding Categories in Draft Alternatives Analysis Report: Natural Environment	Aerial is the least preferred option in that it provides the most noise and only provides less vibration than the at grade option.	The at grade option provides only less noise than the aerial option and creates the most vibration.	The open trench provides the second best option in that it provides less noise and vibration than the aerial and at-grade options.	The closed trench is the best option in that it will provide both the least noise and least vibration.	Please see responses for the aforementioned options.


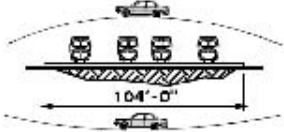

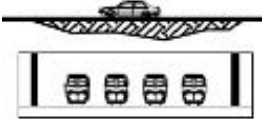



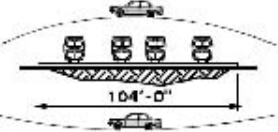

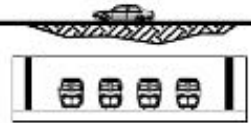
<b>Stakeholder Categories</b>  <b>(Example Goals are provided for each category. Additional Goals may apply. Refer to Issues, Values, and Goals Matrix.)</b>	<b>Aerial Viaduct</b>  	<b>At-Grade</b>  	<b>Open Trench</b>  	<b>Closed Trench (Cut-and-Cover)</b>  	<b>Hybrid (Caltrain and HST on different vertical options)</b>
<b>Visual Experience</b> - Structure does not visually divide community more than it is divided today. - Structure does not block scenic views/vistas, consistent with local planning efforts. - Design/aesthetic of structure respects community scale and character and is compatible with local development plans for adjacent sites.  Corresponding Categories in Draft Alternatives Analysis Report: Natural Environment	<p>N -- The aerial structure visually divides the community more than it is divided today, blocks scenic views and vistas, and is not compatible with the scale and character nor with development plans for much of the community along the corridor in Mountain View.</p> <p>N - The aerial option creates the most visual impact to the community and adjacent properties.</p>	<p>Y/N – The at-grade option visally divides the community by increasing the width of the at-grade rail corridor. An overpass structure would divide the community and would be out of character with the community and would block scenic views and vistas.</p> <p>Y - An underpass would not block scenic view and vistas and would not visually divide the community.</p> <p>Y/N – The underpass structure will not block scenic views/vistas, however, it isn't consistent with local planning efforts</p> <p>N- An underpass structure would diminish the visual experience for people crossing the corridor, particularly pedestrians.</p>	<p>Y - The open trench structure does not block scenic views/vistas.</p> <p>Y/N- The open trench option is less visible and therefore divides the community less and better respects community scale and character better than aerial or at-grade options.</p> <p>This appears to be the second best option as long as landscaping is properly maintained (not creating an eyesore) and limited opportunities for graffiti/vandalism within the open trench.</p>	<p>Y – The design of the closed trench respects community scale and character and is compatible with local development plans for adjacent sites. This idea is consistent with the theme of having more “green space” and connectivity and which would allow a connection between Castro Street and Rengstorff Park along/over the Caltrain ROW. This option does not block scenic views/vistas, consistent with local planning efforts.</p> <p>This is the best option consistent with the City goals of providing opportunities for new open spaces or other planned land uses and promoting connectivity.</p>	<p>Please see aforementioned comments.</p>
<b>Rider Experience</b> - Passengers can see where they are, experience "sense of place." - For passenger comfort, corridor has minimal grade changes (minimize roller coaster effect) - Promote convenient, reliable local transportation connections to final destination	<p>Y- The aerial option provides the best visual rider experience, and provides a "sense of place."</p> <p>This option promotes convenient, reliable local transportation connections to final destination.</p>	<p>Y- The at-grade option provides a sense of where they are, however, not as well as the aerial option</p> <p>I - Promotes convenient, reliable local transportation connections to final destination</p> <p>Y – Stations would be at-grade, which is more convenient than other options for riders.</p>	<p>N - The open trench option does not allow opportunities for passengers to see where they are and experience a "sense of place."</p> <p>I - Promotes convenient, reliable local transportation connections to final destination</p> <p>The open trench option is better than the cut and cover design in that it will not be completely covered.</p>	<p>N - The closed trench option does not allow opportunities for passengers to see where they are and experience a "sense of place."</p> <p>Y - Promote convenient, reliable local transportation connections to final destination</p> <p>The cut and cover option is the least preferred option from a rider experience standpoint.</p>	<p>N – If a number of vertical options are provided, the rider may experience a “roller coaster” effect.</p> <p>Limiting the number of transitioning between vertical options not only within the Mountain View corridor but throughout the entire project is preferred.</p>


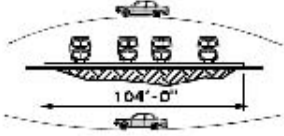


<b>Stakeholder Categories</b>  <b>(Example Goals are provided for each category. Additional Goals may apply. Refer to Issues, Values, and Goals Matrix.)</b>	<b>Aerial Viaduct</b>  	<b>At-Grade</b>  	<b>Open Trench</b>  	<b>Closed Trench (Cut-and-Cover)</b>  	<b>Hybrid (Caltrain and HST on different vertical options)</b>
<p><b>Safety</b></p> <ul style="list-style-type: none"> <li>- Reduce potential collisions with vehicles/pedestrians/bicycles at crossings.</li> <li>- Restrict pedestrian access to railroad, discourage trespassing.</li> <li>- In an emergency, passengers can quickly evacuate, fire and police can access train.</li> <li>- Design of structure minimizes/discourages criminal activity.</li> <li>- Provide safety measures for adjacent community and residences from possible derailment.</li> </ul> <p>Corresponding Categories in Draft Alternatives Analysis Report: Natural Environment</p>	<p>Y – Provides least opportunity for collisions with vehicles/pedestrians/bicycles. Also provides least opportunity for trespassing.</p> <p>N- This design would be difficult for emergencies where passengers need to evacuate, where fire and police access the structure.</p> <p>I – Can reduce potential collisions with vehicles/pedestrians/bicycles at crossings, however, may require converting existing overcrossings at San Antonio and Shoreline to be at grade with Central Expressway. This could reduce safety for ped/bike crossing at Central Expressway and also increase traffic delays.</p> <p>N – Provides opportunity for criminal activity with opportunities for concealment and graffiti.</p> <p>N – Safety must be provided to vehicles, pedestrians and bicyclists underneath the aerial tracks (Possible fencing, additional lighting).</p> <p>I – Need information to provide safety measures for adjacent community and residences from possible derailment.</p>	<p>Y – Grade separations would reduce potential collisions with vehicles/pedestrians/bicycles at crossings.</p> <p>I – Need information to provide safety measures for adjacent community and residences from possible derailment.</p> <p>I – Restricting pedestrian access to railroad and discourage trespassing more difficult than aerial option.</p> <p>Y- At-grade design is best for emergencies where passengers need to evacuate, where fire and police can access the structure.</p> <p>N – Safety must be provided to vehicles, pedestrians and bicyclists underneath the at grade tracks at undercrossings.</p> <p>The at grade option provides the best opportunity in terms of safety for riders, but not necessarily for vehicles and pedestrians.</p>	<p>Y – Grade separations would reduce potential collisions with vehicles/pedestrians/bicycles at crossings.</p> <p>I – Restricting pedestrian access to railroad and discourage trespassing more difficult than aerial option.</p> <p>Y – Provides safety measures for adjacent community and residences by confining any possible derailment.</p> <p>N- This design would be difficult for emergencies where passengers need to evacuate, where fire and police can access the structure, albeit easier than the closed trench option.</p>	<p>Y - Reduces potential collisions with vehicles/pedestrians/bicycles at crossings; restricts pedestrian access to railroad, discourages trespassing; provides safety measures for adjacent community and residences by confining any possible derailment. Design of structure minimizes/discourages criminal activity.</p> <p>N - This design would be difficult for emergencies where passengers need to evacuate, where fire and police can access the structure.</p> <p>The closed trench option provides the best opportunity in terms of safety for adjacent properties, but not necessarily for riders.</p>	


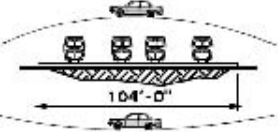




<b>Stakeholder Categories</b>  <b>(Example Goals are provided for each category. Additional Goals may apply. Refer to Issues, Values, and Goals Matrix.)</b>	<b>Aerial Viaduct</b>  	<b>At-Grade</b>  	<b>Open Trench</b>  	<b>Closed Trench (Cut-and-Cover)</b>  	<b>Hybrid (Caltrain and HST on different vertical options)</b>
<b>Service &amp; Stations</b> - Provides Caltrain with grade-separated right-of-way. - Minimal reconstruction/relocation of existing Caltrain stations - Caltrain and Valley Transportation Authority (VTA) Light Rail must be able to maintain service during construction with few temporary structures. - Minimize traffic and parking impacts associated with High Speed Rail. (Improve circulation. maintain or improve parking impacts) - Improve Caltrain, VTA bus and VTA Light Rail station amenities @ Mountain View Station. - Improve Caltrain and VTA Bus amenities @ San Antonio Station  Corresponding Categories in the Environmental documents: Alignment and Station Performance; Constructability	<p>Y – Caltrain will be provided with grade separation which eliminates crossing conflicts that improve train and vehicular traffic level of service (LOS)</p> <p>I – Further information must be provided to show how the aerial option will transition with the existing Caltrain station at San Antonio.</p> <p>I – Further information must be provided to indicate how existing Caltrain and VTA Light Rail services be maintained/improved and coexist with HSR from Downtown Mountain View Caltrain station to Sunnyvale during and after construction.</p>	<p>Y – Caltrain will be provided with grade separation which eliminates crossing conflicts that improve train and vehicular traffic level of service (LOS)</p> <p>I – Further information must be provided to indicate how existing Caltrain and VTA Light Rail services be maintained/improved and coexist with HSR from Downtown Mountain View Caltrain station to Sunnyvale during and after construction.</p> <p>With the at grade option at Castro/Moffett/Central Expressway, the City envisions pedestrian friendly bridges to be installed over Castro Street, Central Expressway and Moffett Boulevard to provide access to stations and downtown.</p>	<p>Y – Caltrain will be provided with grade separation which eliminates crossing conflicts that improve train and vehicular traffic level of service (LOS)</p> <p>I – Further information must be provided to indicate how existing Caltrain and VTA Light Rail services be maintained/improved and will coexist with HSR from Downtown Mountain View Caltrain station to Sunnyvale during and after construction.</p> <p>With the open trench option at Castro/Moffett/Central Expressway, the City envisions a stronger gateway with landmark corner building and a better connection with the Moffett Boulevard corridor.</p>	<p>Y – Caltrain will be provided with grade separation which eliminates crossing conflicts that improve train and vehicular traffic level of service (LOS)</p> <p>I – Further information must be provided to indicate how existing Caltrain and VTA Light Rail services be maintained/improved and coexist with HSR from Downtown Mountain View Caltrain station to Sunnyvale during and after construction.</p> <p>With the closed trench option at Castro/Moffett/Central Expressway, the City envisions a stronger gateway with landmark corner building and a better connection with the Moffett Boulevard corridor.</p>	<p>Y – Caltrain will be provided with grade separation which eliminates crossing conflicts that improve train and vehicular traffic level of service (LOS)</p> <p>Please see aforementioned vertical options.</p>

<b>Stakeholder Categories</b>  <b>(Example Goals are provided for each category. Additional Goals may apply. Refer to Issues, Values, and Goals Matrix.)</b>	<b>Aerial Viaduct</b>  	<b>At-Grade</b>  	<b>Open Trench</b>  	<b>Closed Trench (Cut-and-Cover)</b>  	<b>Hybrid (Caltrain and HST on different vertical options)</b>
<b>Cross Connectivity: Vehicle, Pedestrian, Bicycle</b> - Provide improved north-south connectivity for vehicles, pedestrians and bicyclists @ Castro Street/Moffett Boulevard/Central Expressway and @ Rengstorff Avenue.  - Provide a greenway connection between Castro Street and Rengstorff Park.  Corresponding Categories in Draft Alternatives Analysis Report: Constructability; Community	<p>I - The aerial option provides improved north-south connectivity for vehicles, pedestrians and bicyclists @ Castro Street/Moffett Boulevard/Central Expressway and @ Rengstorff Avenue while promoting opportunities for additional green space and other land uses.</p> <p>Would require converting existing overcrossings at San Antonio and Shoreline to be at grade with Central Expressway, increasing traffic delays and creating at-grade crossing with Central Expressway for vehicles, pedestrians, and bikes.</p>	<p>Y/N – Provides grade separations for north-south connectivity for vehicles/bikes/pedestrians, but causes vehicle/bikes/pedestrians to have to change grade (overcrossing or undercrossing) to cross rail.</p> <p>N- At downtown, the at-grade option can eliminate direct vehicular and bicycle access from both intersections of W. Evelyn Avenue and Castro Street.</p> <p>N- At Rengstorff and Central Expressway, direct at-grade access to a portion of Rengstorff Park will be eliminated. Also, access to the commercial center and apartments to the north must be reconfigured. The access to Mi Pueblo Market and some residences to the south will be eliminated.</p>	<p>Y - The open trench design allows the potential to improve north-south connectivity for vehicles/bikes/pedestrians by allowing vehicles/bikes/pedestrians to cross over rail while remaining at grade.</p> <p>Y – If partially covered, the open trench can provide an opportunity to provide a pedestrian friendly “greenway” between Rengstorff Park and Castro Street along the corridor.</p>	<p>Y -The closed trench option provides the best north-south connectivity for vehicles, pedestrians and bicyclists.</p> <p>Y – The closed trench can provide an opportunity to provide a pedestrian and bike friendly “greenway” between Rengstorff Park and Castro Street along and over the Caltrain ROW.</p> <p>The closed trench is the best option and is consistent with the City goals of providing opportunities for new open spaces or other planned land uses along with providing connectivity.</p>	
<b>Land Use</b> - Be consistent with local Land Use Plans and community vision, design of structure respects adjacent land uses. - Provide opportunity for new open spaces or other planned land uses - Promotes north-south vehicular, pedestrian and bicycle connectivity  Corresponding Categories in Draft Alternatives Analysis Report: Land Use; Environmental Resources	<p>N – Aerial structure does not respect adjacent land uses and is not consistent with local land use plans and community vision.</p> <p>I – Provides opportunity for new open spaces or other land uses, but more information is needed about opportunities for development under and around the structure.</p> <p>Y - Promotes north-south vehicular, pedestrian and bicycle connectivity.</p>	<p>N – A wider at-grade rail corridor is not consistent with local land use plans or community vision.</p> <p>N- The at grade option does not provide opportunities for new open spaces or other planned land uses</p> <p>Y/N – Promotes north-south vehicular, pedestrian and bicycle connectivity but forces vehicles, pedestrians and bicycles to go above or below grade to cross rail corridor.</p>	<p>Y – Consistent with local Land Use Plans and community vision, design of structure respects adjacent land uses, Promotes north-south vehicular, pedestrian and bicycle connectivity</p> <p>Y -Provides opportunity for new open spaces or other planned land uses such as an opportunity to connect Rengstorff Park and Castro Street with a greenway.</p>	<p>Y – Consistent with local Land Use Plans and community vision, design of structure respects adjacent land uses, Promotes north-south vehicular, pedestrian and bicycle connectivity</p> <p>Y -Provides opportunity for new open spaces or other planned land uses such as an opportunity to connect Rengstorff Park and Castro Street with a greenway.</p>	

<b>Stakeholder Categories</b>  <b>(Example Goals are provided for each category. Additional Goals may apply. Refer to Issues, Values, and Goals Matrix.)</b>	<b>Aerial Viaduct</b>  	<b>At-Grade</b>  	<b>Open Trench</b>  	<b>Closed Trench (Cut-and-Cover)</b>  	<b>Hybrid (Caltrain and HST on different vertical options)</b>
<p><b>Adjacent Properties</b></p> <ul style="list-style-type: none"> <li>- Minimize residential/business displacements.</li> <li>- Design of structure adds value to community, minimizes reduction in property values.</li> <li>- Project should consider impacts to soil (erosion) and foundations or structures along the right-of-way.</li> <li>- Utilize prefabricated structures which can be installed in a shorter time frame to reduce construction period.</li> </ul> <p>Corresponding Categories in Draft Alternatives Analysis Report: Community</p>	<p>Y – Minimizes residential/business displacements.</p> <p>N - The size and the scale of the proposed structure are not compatible with the adjacent properties, which could adversely affect property values.</p> <p>I - The City is interested in knowing the time necessary for prep work (traffic control, erosion control, excavations) and ultimate construction completion since it will affect adjacent properties and downtown businesses.</p> <p>Also, the City is interested in necessary setback requirements needed for adjacent properties for this option.</p>	<p>N – At downtown, this option could eliminate some businesses' direct connection to Moffett Boulevard and Castro Street.</p> <p>N – Existing right-of-way will not accommodate at-grade option, so business displacements may occur.</p> <p>N – Grade separation structures would affect access to properties, parking, and circulation and would likely not add value to the community.</p> <p>N – At Rengstorff Avenue, business displacements could occur with grade separation.</p> <p>I - The City is interested in knowing the time necessary for prep work (traffic control, erosion control, excavations) and ultimate construction completion since it will affect adjacent properties and downtown businesses.</p> <p>Also, the City is interested in necessary setback requirements needed for adjacent properties for this option.</p>	<p>Y – With vertical stacking of Light Rail, business displacements would likely not occur.</p> <p>Y - Placing Caltrain below grade would minimize reduction in property values.</p> <p>The City is interested in knowing the time necessary for prep work (traffic control, erosion control, excavations) and ultimate construction completion since it will affect adjacent properties and downtown businesses.</p> <p>Also, the City is interested in necessary setback requirements needed for adjacent properties for this option.</p>	<p>Y – With vertical stacking of Light Rail, business displacements would likely not occur.</p> <p>Y - Placing Caltrain below grade would minimize reduction in property values.</p> <p>The City is interested in knowing the time necessary for prep work (traffic control, erosion control, excavations) and ultimate construction completion since it will affect adjacent properties and downtown businesses.</p> <p>Also, the City is interested in necessary setback requirements needed for adjacent properties for this option.</p>	<p>The City is interested in knowing the time necessary for prep work (traffic control, erosion control, excavations) and ultimate construction completion since it will affect adjacent properties and downtown businesses.</p> <p>Also, the City is interested in necessary setback requirements needed for adjacent properties for the hybrid options.</p>

<b>Stakeholder Categories</b>  <b>(Example Goals are provided for each category. Additional Goals may apply. Refer to Issues, Values, and Goals Matrix.)</b>	<b>Aerial Viaduct</b>  	<b>At-Grade</b>  	<b>Open Trench</b>  	<b>Closed Trench (Cut-and-Cover)</b>  	<b>Hybrid (Caltrain and HST on different vertical options)</b>
<b>Constructability</b> - Construction of structure requires fewer temporary structures (track or stations) - Structure can be prefabricated/installed in shorter time frame to reduce construction period  Corresponding Categories in Draft Alternatives Analysis Report: Constructability	I – More information is needed to assess constructability.	I – More information is needed to assess constructability.	I – More information is needed to assess constructability.	I – More information is needed to assess constructability.	
<b>Freight Operations</b> - Maintain access to freight rail customers. - Ensure freight can use the corridor to meet future demand.  Corresponding Categories in Draft Alternatives Analysis Report: Constructability	Y – All alternatives appear to maintain access to freight customers and ensure future use of the corridor to meet future demand.	Y – All alternatives appear to maintain access to freight customers and ensure future use of the corridor to meet future demand.	Y – All alternatives appear to maintain access to freight customers and ensure future use of the corridor to meet future demand.	Y – All alternatives appear to maintain access to freight customers and ensure future use of the corridor to meet future demand.	
<b>Rail Operations</b> - Provide ability for enhanced Caltrain and commuter rail service - Maximize Caltrain and HST capacity through sharing infrastructure (tracks, etc.) - Allows VTA Lightrail riders opportunity to use the enhanced Caltrain/ HSR service.  Corresponding Categories in the Draft Alternatives Analysis Report: Constructability; Alignment and Station Performance Objectives	Y - Provides ability for enhanced Caltrain and commuter rail service Y - Maximizes Caltrain and HST capacity through sharing infrastructure (tracks, etc.) Y - Allows VTA Lightrail riders opportunity to use the enhanced Caltrain/ HSR service.	Y - Provides ability for enhanced Caltrain and commuter rail service - Maximizes Caltrain and HST capacity through sharing infrastructure (tracks, etc.) - Allows VTA Lightrail riders opportunity to use the enhanced Caltrain/ HSR service.	Y - Provides ability for enhanced Caltrain and commuter rail service - Maximizes Caltrain and HST capacity through sharing infrastructure (tracks, etc.) - Allows VTA Lightrail riders opportunity to use the enhanced Caltrain/ HSR service.	Y -Provides ability for enhanced Caltrain and commuter rail service - Maximizes Caltrain and HST capacity through sharing infrastructure (tracks, etc.) - Allows VTA Lightrail riders opportunity to use the enhanced Caltrain/ HSR service.	

<b>Stakeholder Categories</b>  <b>(Example Goals are provided for each category. Additional Goals may apply. Refer to Issues, Values, and Goals Matrix.)</b>	<b>Aerial Viaduct</b>  	<b>At-Grade</b>  	<b>Open Trench</b>  	<b>Closed Trench (Cut-and-Cover)</b>  	<b>Hybrid (Caltrain and HST on different vertical options)</b>
<b>Equity</b> - Do not disproportionately impact lower-income/ minority neighborhoods and locally-owned businesses. - Distribute project benefits as equitably as possible throughout corridor  Corresponding Categories in Draft Alternatives Analysis Report: Community	Regardless of the vertical alignment, the project is adjacent to 6 lower income census tracts.	Regardless of the vertical alignment, the project is adjacent to 6 lower income census tracts.	Regardless of the vertical alignment, the project is adjacent to 6 lower income census tracts.	Regardless of the vertical alignment, the project is adjacent to 6 lower income census tracts.	Regardless of the vertical alignment, the project is adjacent to 6 lower income census tracts.
<b>Economics/Financial Feasibility</b> - Maintain existing parking levels to local downtown (Castro Street) and business centers - Capital cost, relative to benefits/achieving goals, is superior to other alternatives - Operational cost (escalator/elevator maintenance, lighting, etc.), relative to benefits/achieving goals, is superior to other alternatives - Minimize impacts on downtown businesses and tax revenues - Maintain, help improve access, visibility, connections to downtown and business centers  Corresponding Categories in Draft Alternatives Analysis Report: Alignment and Station Performance and Objectives; Constructability	Y – Parking can be provided underneath the aerial viaduct option for local downtown (Castro Street) and other business centers to increase parking availability for both residential and commercial areas.  N – Does not minimize impacts on downtown businesses, or maintain visibility for downtown businesses.  I – The City did not perform analysis of operational and capital costs relative to benefits.	N- Along the 100 block of Castro and portions of Moffett Boulevard, on street parking will be eliminated. Additional parking maybe required in the downtown area with this option.  Y/N – Access is improved by grade separating rail from vehicles/pedestrians/bicycles, but diminished because vehicles/pedestrians/bicycles must go above or below grade to cross rail.  I – The City did not perform analysis of operational and capital costs relative to benefits.	Y – Maintains existing parking levels, visibility and connection to downtown businesses.  Y – Access is improved by grade separating vehicles/pedestrians/bicycles from rail and allowing vehicles/pedestrians/bicycles to cross rail while remaining at grade.  I – The City did not perform analysis of operational and capital costs relative to benefits.	Y – Maintains existing parking levels, visibility and connection to downtown businesses.  Y – Access is improved by grade separating vehicles/pedestrians/bicycles from rail and allowing vehicles/pedestrians/bicycles to cross rail while remaining at grade.  I – The City did not perform analysis of operational and capital costs relative to benefits.	

**Step 4: Provide feedback.**

After completing this worksheet, what has changed in your understanding of the grade separation methods? What new understanding do you have on benefits/impacts of the grade separation options?

This worksheet did not so much help us understand the grade separation methods as help document the impacts of the various methods.

Please provide feedback on the effectiveness of Exercise 2. How has this activity been of use to you?  
Your feedback will assist in the development of future assessment exercises as the project progresses.

T

**Step 5: Submit the completed exercise to the PRP.** Submit your completed worksheet to PRP@caltrain.com or mail them to Peninsula Rail Program, 799 Seventh St., San Francisco, CA 94107. Your input will be communicated to the Technical Working Group and Policymaker Working Group and will allow other stakeholders to view the information that applies to the same or adjacent subsections.

The feedback obtained from the Exercises will be compiled for each subsection and the summary of responses will be made available online at <http://www.caltrain.com/peninsularailprogram.html>. The act of submitting a completed exercise is not a vote for any specific alternative or mapped item. Responses will not be tallied or weighted, nor will frequencies be recorded. When comments are in conflict, all will be recorded in the summary document. City representatives and project/engineering team members will use the summary documents as references in developing the project further.

## DRAFT

June 9, 2010

Mr. Robert Doty  
California High-Speed Rail Authority  
925 L Street, Suite 1425  
Sacramento, CA 95814

### COMMENTS ON THE PRELIMINARY ALTERNATIVES ANALYSIS REPORT

Dear Mr. Doty:

Thank you for the opportunity to comment on the Preliminary Alternatives Analysis Report for the High-Speed Rail project. Thanks also to Dominic Spaethling and the many other California High-Speed Rail Authority (CHSRA) representatives that facilitated the community meeting in Mountain View on May 3, 2010.

The High-Speed Rail project presents many potential challenges to Mountain View and other communities along its length, and we look forward to continuing to work with the CHSRA towards mutually acceptable solutions. The following comments were approved by the Mountain View City Council on June 8, 2010. In addition to these comments, enclosed are completed Exercise 1 and Exercise 2 from the Context-Sensitive Solutions Toolkit.

### GENERAL COMMENTS ON THE PRELIMINARY ALTERNATIVES ANALYSIS DOCUMENT

#### Limited Information

The Preliminary Alternatives Analysis Report (AA) provides very limited information for the City to assess the High-Speed Rail (HSR) alternatives. Information about noise and vibration, aesthetics, requirements for an HSR station and many other topics are critical for the City and the community to make informed comments.

#### VTA Light Rail System

The AA does not adequately address the Valley Transportation Authority (VTA) light rail tracks between Castro Street and east of Whisman Road (approximately Station 21+55), the Downtown Mountain View light rail station or the Evelyn Avenue Station (approximately Station 21+40). While the light rail system is acknowledged

periodically throughout the document, the right-of-way discussions, cross sections and other critical elements of the AA do not address the right-of-way and other needs of the light rail system. Light rail adds both track and station to the corridor at a critical location in downtown Mountain View. The City and community cannot adequately review the High-Speed Rail alternatives without information about how the HSR project will integrate with the existing light rail system.

The City of Mountain View and VTA both made substantial investments to bring light rail to downtown Mountain View, and the California High-Speed Rail Authority (CHSRA) must coordinate closely with both of the agencies to avoid negatively impacting this rail system.

#### **Loss of a Traffic Lane on Central Expressway**

The AA mentions loss of a traffic lane on Central Expressway to gain the necessary right-of-way for the proposed HSR improvements. Central Expressway is a major regional arterial roadway under the jurisdiction of the County of Santa Clara. In the absence of a detailed analysis that shows that traffic and other impacts can be mitigated, the City has serious concerns about the loss of a lane on Central Expressway. In addition to providing such an analysis, the CHSRA must coordinate such proposals with all affected jurisdictions, including the County and affected cities.

#### **Noise and Vibration**

The City is concerned about the noise and vibration impacts of all alternatives. This concern has been raised repeatedly by the community. More information is needed about the expected noise impacts of the various alternatives so this impact can be understood by the City and our residents.

#### **Downtown and the Downtown Transit Center**

All of the alternatives included in the AA have a significant effect on downtown Mountain View and the Downtown Transit Center. Downtown Mountain View is thriving and vibrant, with historic homes and businesses mixed with newer high-density and mixed-use developments. The City has made a significant investment over the past 15 years in the light rail system, the Transit Center, the train depot building and Evelyn Avenue. All of these improvements have been very successful, and the City is concerned about negative impacts that a project of this size could have on these facilities and the downtown in general.



The Downtown Transit Center includes a heavily used Caltrain station, a light rail station, a VTA bus hub and increasing private shuttle bus use. The City supports increased use of alternative transportation, so these uses must be protected at a minimum and improved if possible with the HSR project.

### **Avoid Dividing the Community**

During the City's 2008 General Plan Visioning process, over 800 individuals provided input on defining Community Values and a Vision for Mountain View. Participants noted that physical barriers exist between residential neighborhoods, employment centers and transit stations, resulting in impeded access to transit and limiting *Connectivity* (identified as one of six Community Values). Finding opportunities to improve connections to downtown, across the railroad tracks and across Central Expressway was seen as a way to boost connections between otherwise adjacent residential areas. The City feels that this project presents a unique opportunity to reduce the affect of this visual and physically dividing feature in our City. Design goals of the HSR project must include avoiding further division of the community with the rail corridor and finding opportunities to improve connectivity across and along the corridor.

## **COMMENTS ABOUT THE ENVIRONMENTAL REVIEW/DESIGN PROCESS**

### **HSR Schedule**

With the anticipated release of a Draft Environmental Impact Report (Draft EIR) in December 2010 and the limited information provided about the project to date, the City is concerned about having enough information in time to make informed comments to the CHSRA. Review of documents by the City and the community and outreach take a considerable amount of time and resources, so we encourage the CHSRA to provide as much information as possible and provide local communities ample time to evaluate the impacts of the HSR and provide feedback to the CHSRA. The City does not want to be in the position of still providing critical input after decisions have been made by the CHSRA.

### **"Stitching" the Corridor Together**

The City has been focused on the impacts of the HSR project on our community and on providing information to and getting feedback from our residents. We have not formally engaged our neighboring cities (Palo Alto and Sunnyvale) nor other agencies with a significant stake in the rail corridor (County of Santa Clara, VTA, Caltrans) while providing comments on the AA. We do not know the CHSRA's plan to "stitch" together

the feedback from adjacent cities and affected agencies. Such coordination is critical for a successful project. The City would like to hear from the CHSRA the plan for this coordination as we look forward to participating.

### **COMMENTS ABOUT THE ALTERNATIVES**

#### **Aerial Viaduct (Including HSR, Caltrain and Freight)**

1. The City recognizes some benefits associated with the aerial viaduct, including minimal impacts on existing infrastructure (underground utilities, roadways, creeks, etc.), separating rail from at-grade pedestrian and vehicle crossings, and potential beneficial use of the area under the structure.
2. The City has significant concerns about the impact of elevating a source of noise and vibration. The existing Caltrain/freight system is already a significant noise source. Elevating the rail system would allow the sound to travel further and negatively impact a larger portion of the community. Much of the corridor in Mountain View is residential or includes other sensitive noise receptors.

The City received many comments from residents about noise and vibration, reflecting a high degree of concern in the community.

Based on the information provided in the AA, the City cannot ascertain the full impact of any of the alternatives in terms of noise and vibration. The City recognizes that electrification of Caltrain and elimination of train horns at at-grade road crossings would reduce rail noise. However, there would still be diesel-powered freight and many more trains than are on the corridor today. The City requests more information about anticipated noise and vibration impacts of each of the alternatives.

3. The elevated option has the greatest negative visual impact on the community. While very little information about the detailed design of an elevated structure was available in the AA, enough was provided to indicate that the size and scale of the structure required to elevate the HSR/Caltrain/freight rails is akin to an elevated freeway structure bisecting the City and would dramatically change the view along the entire corridor. Many buildings close to the corridor in Mountain View are one-, two- and three-story residential structures, and the aerial viaduct is not in keeping with the scale of these buildings.
4. The aerial viaduct requires removal of the existing San Antonio Road and Shoreline Boulevard overpasses over Caltrain and Central Expressway. These are

very busy roadways, carrying approximately 45,000 and 35,000 vehicles per day, respectively. The City made a significant investment in elevating Shoreline Boulevard to relieve congestion at the intersection of Shoreline Boulevard and Central Expressway, and the potential traffic impacts associated with restoring these interchanges to at-grade intersections are of great concern. If this option is carried forward for further consideration, these impacts must be thoroughly studied.

5. Development of the area under the structure is limited by structural columns and lack of light. Landscaping opportunities are limited or nonexistent. Based on the limited information available, it is not clear to the City what the potential development opportunities are under the structure. If this option is carried forward for further consideration, the City requests more information about these opportunities.

#### **At-Grade HSR/Caltrain/Freight**

1. The at-grade alternative leaves existing stations at Castro Street and San Antonio Road at grade, which is beneficial to rail users.
2. The existing at-grade rail system is already a significant barrier in the community, especially to bicyclists and pedestrians. While grade separations are proposed at Castro Street and Rengstorff Avenue, adding two additional tracks and security fencing for HSR increases the effect of dividing the community. The City would like to increase the connection of communities on each side of the corridor, such as downtown with Moffett Boulevard and Rengstorff Park with residents on the east side of the corridor.
3. The at-grade solution forces vehicles, pedestrians and bicyclists crossing the rail corridor to go above or below grade. This creates a negative experience, particularly for bicyclists and pedestrians. Grade separations also interrupt the existing roadway network near the corridor. An example is Castro Street, where an undercrossing would separate existing businesses from the street and disconnect Castro Street from Evelyn Avenue.
4. There is not sufficient right-of-way to construct this alternative, particularly south of Castro Street. Accommodating HSR, Caltrain/freight, light rail, a Caltrain station and a light rail station downtown would affect Mountain View's Downtown Transit Center, the City's train depot building, existing Caltrain/light rail parking, existing privately owned commercial buildings, Evelyn Avenue and Central Expressway. This is a critical area of the City and appears to be the most

constrained. The CHSRA must work closely with the City and all affected stakeholders while analyzing this alternative. Options such as vertical stacking of rail facilities may be required.

5. The overhead electrification system would create a negative visual impact. The City would like more information about the options for the electrification system.

#### **Open Trench/Covered Trench**

1. The trench option significantly reduces the visual and noise impacts of the project.
2. Placing the rail system below grade greatly reduces the division in the community that is created by the rail corridor. Pedestrians, bicyclists and vehicles can travel across the corridor without going above or below grade. This is a significant benefit, particularly for pedestrians.
3. This option allows for possible vertical stacking of the light rail system over HSR, which helps alleviate the right-of-way constraint south of Castro Street.
4. Caltrain stations are below grade in this alternative, so careful consideration must be given to making below-grade facilities safe and inviting.
5. The below-grade alternative is shown very deep (approximately 45') below Permanente Creek. The City would like more information about the need to go this deep.
6. A covered HSR trench provides an opportunity for a pedestrian/bike path or other beneficial uses along the corridor. The City would like to work with the CHSRA to explore opportunities for such uses.
7. An alternative showing an at-grade system from Sunnyvale to Stevens Creek transitioning to a below-grade alternative at Castro Street is not shown in the AA. The City would like to know if this alternative is feasible.

Mr. Robert Doty  
June 9, 2010  
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**DRAFT**

Thank you again for the opportunity to comment on the AA. We look forward to continuing to work with the CHSRA. If you have any questions about Mountain View's comments, please contact Mike Fuller, Public Works Director, at (650) 903-6311.

Sincerely,

Ronit Bryant  
Mayor

RB/MAF/2/PWK  
905-05-19-10L-E^

Enclosures: 1. CSS Toolkit Exercise 1  
2. CSS Toolkit Exercise 2

cc: City Council

CM, PWD, CDD, DPWD, BISM, PM—Kim